# DEMOCRATIC IMPLICATIONS OF REALISM IN HUMAN DYNAMICS AND EDUCATION

by

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# DEMOCRATIC IMPLICATIONS OF REALISM IN HUMAN DYNAMICS AND EDUCATION

# CHAPTER I

## DEMOCRACY AND ABSOLUTISM

> Only when reflection upon means and choice of ends are free can there be actual social planning. Every arrest of intelligence (and every form of social dogma is an arrest) obstructs and finally supresses free consideration and choice of means.
>
> John Dewey, John Dewey's Philosophy (Ratner ed.) p. 432

One of the most acutely urgent problems facing American education is that of formulating a philosophy in keeping with a democratic outlook on life. The urgency of this problem is attested by the numerous and varied current educational publications which attempt to set forth a philosophy of education suitable to a democratic society. The Forty-First Yearbook, Part I, of the National Society for the Study of Education, entitled Philosophies of Education, is a good example. But herein is a perplexing problem, for many of the current writers avow democratic affiliations despite their conflicting points of view.

Frederick S. Breed, one of the contributors to the Forty-First Yearbook cited above, informs us that our educational philosophy must square with democratic principles.[1] More or less by indirect implication he suggests that the various forms of absolute idealism are not acceptable since they disregard experience as a necessary element in the acquisition of truth. He continues by pointing out that both pragmatism and realism are more suitable in a democracy since both represent an experiential approach. He states,

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1. Frederick S. Breed, "Education and the Realistic Outlook," Philosophies of Education, Forty-First Yearbook, Part I, p. 87.

> The foundation of democracy is natural; not to our knowledge, supernatural. It rests on generalizations from fact, not presumptions of omniscience. 'Clear and distinct ideas' that are advertised as compelling in their authority because they are fresh from the faculty of Reason and the Citidal of Truth, are no more impressive than the capital letters that linger on as a literary tradition in philosophy.[2]

But Breed finds little community to exist between pragmatism and realism. He points out that there is actually a very great difference between them in matters that have a bearing on one's social outlook. For example, he holds that pragmatism is essentially a Margaret Fuller type of subjectivity in which the observer accepts and interprets the universe as his personal tastes may dictate.[3] Breed argues that from this point it is a logical step to Rousseau's type of individualism currently represented by certain elements within the Progressive Education Association. This individualism, he implies, is not acceptable in a democracy.[4] Consequently we must assume that he regards pragmatism as non-democratic. Breed's contention is that democracy necessitiates a recognition of the objectivity of reality and an acceptance of reality by conforming to it.[5] He clinches his argument for realism by statements such as the following:

> The attitude of tolerance so essential to liberalism and the democratic way of life derives its chief justification from the rights of others,... and introduces into democratic social relations an essential note of duty and responsibility. In a word, the demands of external entities, physical and personal, furnish the foundation of an inescapable factor known as discipline in life.[6]

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2. F. S. Breed, Forty-First Yearbook of the N.S.S.E., Part I, p. 136.
3. Ibid. p. 101.
4. It appears that Breed has confused pragmatism with subjective idealism.
5. Breed, op. cit. p. 101.
6. Breed, op. cit. p. 133.

> The ultimate democratic appeal is to the evidence for authority and to the capacity of the community to understand the evidence when presented pro and con by competent leadership.[7]

If Breed's position is characteristic of realism, it would appear that realism is authoritarian and absolutistic. At this point we are reminded of B. H. Bode's position that there is an "... irreconcilable conflict between democracy and absolutism."[8] Here, then, is the crux of our problem; namely, is realism absolutistic, and if so, does it imply a non-democratic design for living?

One cannot proceed further, however, unless these two terms, absolutism and democracy, are more fully discussed. Absolutism implies ultimacy or finality. Wheeler[9] indicates that traditional absolutism is based on such concepts as fixity, completeness, and independence. Bode had this traditional absolutism in mind when he scored both objective idealists who conform to Plato's pattern of thought,[10] and subjective idealists who like Rousseau accept human nature as absolute.[11]

Breed's characterization of realism provides us with another good example of absolutism in the following statement:

> The principle above all others that unifies the realist is known in brief as the principle of independence.[12]

For subjective idealists the principle of independence applies to the "self" or human nature; for objective idealists the truths of the

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7. Ibid., p. 134.
8. Boyd H. Bode, Progressive Education at the Crossroads, pp. 112-113.
9. Raymond Holder Wheeler, "A Set of Postulates for Educational Theory 1, The Background," Journal of Educational Research, Vol. 28, pp. 322-333, 1935.
10. Boyd H. Bode, Progressive Education at the Crossroads, pp. 21-27.
11. Ibid, 37 ff.
12. Breed, Forty-First Yearbook, N.S.S.E., Part I, p. 93.

ages are endowed with this independence; and for realists, independence is an attribute of matter. That is to say, human nature and physical reality are described as though they were self-contained and independent of circumstances.

Absolutists are distinctive in that they regard hypotheses as unproven assumptions. In contrast, Wheeler, representing a relativistic position, writes "Scientific laws are hypotheses, always hypotheses, subject to correction."[13] The implication is that the scientist does not know if his conclusions are final. Hence, he is continually projecting workable hypotheses for recurring problems, testing them in their application, and revamping or reorganizing them in the light of experience. By way of comparison let us see what Breed writes about hypotheses. We read:

> Over and above the more securely established portions of our knowledge known as factual, there are less certain beliefs which are known as theories or hypotheses.[14]

> Hypotheses are legitimate in the classroom only if carefully labeled so as not to be confused with verified results.[15]

It is obvious from the above that Breed considers hypotheses as suppositions. That is, they are the unproven; whereas, truth is for him the settled or established. But a settled matter requires no further inquiry. It requires only its acceptance and an adaptation to it. Consequently, Breed may be expected to be a authoritarian about the "settled" matters. On the other hand, a rela-

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13. R. H. Wheeler, "Postulates for a Theory of Education II, A Methodology for Educational Research," Journal of Educational Research, Vol. 29, p. 187.
14. F. S. Breed, Education and the New Realism, p. 16.
15. Ibid, p. 186.

tivist will regard his truths as working hypotheses, and will be willing to re-examine his assumptions periodically. He has accepted no explanation or conclusion as final. He retains an "open mind."

Turning now to a discussion of democracy, we find various and sundry statements pertinent thereto. Thomas Briggs[16] states that democracy is a blanket term which is so broad that it is meaningless. By some measure of concensus he would set up a definition which limits the word and establishes its meaning. It is questionable in the minds of many whether concensus can establish the meaning of any word, but let us see if there is concensus among educators concerning democracy.

In the Forty-First Yearbook, Part I of the N.S.S.E., written in part by Kilpatrick,[17] an instrumentalist; Breed,[18] a realist; Horne,[19] an idealist; McGucken,[20] a Thomist; and Brubacher,[21] an absolutist, it is interesting to note that each considers as important to democracy certain things agreed to by the other co-authors. For example: each holds that respect for personality is vital to democracy. To one familiar with the writings of these men, it is fairly certain that all or at least most of them do not regard the individual as an end in himself. The principle of respect for personality is a means rather than an end. Its purpose is summarized by John Dewey in the following manner:

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16. Thomas Briggs, Pragmatism and Pedagogy, p. 62 ff.
17. William H. Kilpatrick, Forty-First Yearbook, N.S.S.E., Part I, p. 54.
18. F. S. Breed, Forty-First Yearbook, N.S.S.E., Part I, p. 137.
19. Herman H. Horne, Forty-First Yearbook, N.S.S.E., Part I, p. 154.
20. William McGucken, Forty-First Yearbook, N.S.S.E., Part I, p. 284.
21. John Brubacher, Forty-First Yearbook, N.S.S.E., Part I, p. 315.

> A society which makes provision for participation in its good of all its members on equal terms and which secures flexible readjustment of its institutions through interaction of the different forms of associated life is in so far democractic. [22].

We can infer from Dewey's statement that each individual should have opportunity to share in the shaping or molding of any institution which affects him. That is, respect for personality reflects a faith in human intelligence and implies an active participation of individuals in group planning and living.

There is a second point on which several of the authors cited are in agreement regarding democracy; namely, that mental coercion or indoctrination is undemocractic. Kilpatrick writes:

> It (democracy) cannot be taught by indoctrination for that is an essentially undemocratic process. [23].

Horne agrees with this position for he writes:

> Just now there is a question whether we should have 'democratic propaganda.' The phrase is self-contradictory. If it is propaganda, it is not fair to all sides, and so is not democratic. If it is democratic, it is truthful and fair to all sides, and so is not propaganda. [24].

Breed is less clear-cut, but his agreement is implied in the following statement:

> The protest against the immoderately authoritarian character of the common American school grows apace, based on the conviction that education for life in a democracy is not best attended in the atmosphere generated by a fascistic schoolmaster. [25].

Underlying these statements is the assumption that democracy is founded on the principle of equality of opportunity and respon-

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22. John Dewey, Democracy and Education, p. 115.
23. William H. Kilpatrick, op cit., p. 78.
24. Herman H. Horne, op cit., p. 177.
25. F. S. Breed, op cit., p. 103-104.

sibility to make one's own decisions. That is to say, no one person or group has the right to assume control of the channels of communication with a view toward forcing a particular decision or pattern of thought. Moreover, a positive implication follows; namely, that social and individual progress is guaranteed only by an active and reflective participation of each individual in a planning society. A beneficent dictatorship may enforce a progressive social program, but in doing so it is laying the groundwork for intellectual dependency. A primary purpose of democracy is to assure a continuance of the means for social progress, a responsible, enlightened, and independently learning citizenry.

Further examination of the Forty-First Yearbook, Part I, of the National Society for the Study of Education will yield other points of agreement regarding democracy. One of the more obvious is that democracy is the social function of problem - solving. It is a means by which individuals cooperate in the improvement of human welfare. This is more or less implied in the discussions of "respect for personality" and indoctrination. Kilpatrick, Horne, and Breed may disagree in their statements of specific values and ends in a democratic society; however, they profess to place responsibility upon each individual for his share in problem-solving, and they declare that mental coercion and control of communication are undemocratic. Consequently, they must admit to no hierarchy of knowers nor of the known. To be consistent, they must regard current social policies as hypotheses which reflect current insights. That is to say, any social program must be tentative, subject to reorganization or reconstruction in the light of experience. This is why John Dewey, Bode, and many others

declare that democracy is a planning society rather than one which is already planned. Hence, because absolutism implies known or knowable social goals which become social dogma, it is in conflict with democracy.

If we state that democracy is "... a form of social organization which provides equality of opportunity for participation in a growing area of interests mutually shared"[26] we imply a changing society. It is a society in which respect for personality and unlimited opportunity to share thoughts and experience are necessitated in order to allow the greatest play of growing insights on a multitude of changing situations. It is a society committed to the development of a citizenry obligated and equipped to share in reflective social problem-solving.[27] In other words, democracy is not a society conforming to absolutes but one that is constantly reforming in the light of growing insights and expanding relationships.

What about the relationship of realists to democracy? Realists as a group do not ordinarily regard themselves as absolutists. However, in our limited study of Breed, we have found his brand of realism is absolutistic. The question naturally arises, would we be justified in concluding that since absolutism is incompatible with democracy, and since realism is absolutistic, that realism too is open to question as

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26. Ernest E. Bayles, "The Relativity Principle as Applied to Teaching," University of Kansas Bulletin of Education, Vol. IV, No. 4, p. 5.

27. E. E. Bayles, op. cit., p. 5, expresses this position in the following manner: "It follows, therefore, that education in a democracy must be designed to stimulate and assist each pupil progressively to develop a more competent knowledge of and ability to cope with his world, and simultaneously to develop an augmented ability to learn by himself - to think reflectively."

it makes its educational recommendations for democracy? At a time when Breed's Education and the New Realism, Brigg's Pragmatism and Pedagogy, Thorndike's Human Nature and the Social Order, Bobbitt's The Curriculum for Modern Education, and a host of other publications by apparent or averred realists are so well received by prominent educators, it would be well for us to re-examine their basic assumptions to see if they are democratically sound. But since it is impossible to analyze the writings of each and all of these men within the scope of this dissertation, attention will be centered on the recent contributions of Thorndike and Bobbitt; particularly since Thorndike has made major contributions to modern educational psychology and social dynamics, and Bobbitt has contributed so largely to educational curricular content and organization.

The purpose of this study, then, is to outline the assumptions underlying Thorndike's Human Nature and the Social Order, and Bobbitt's The Curriculum for Modern Education with the following objectives in mind:

1. To find whether they are representative of realism as a whole.
2. To indicate the nature of the basic assumptions of these two works when they are deprived of their "progressive" vocabulary.
3. To show what an acceptance of realism implies with regard to an interpretation of human nature, society, and the educative process.

A great many realists have featured significantly in modern education. Among the first ranks is Edward Lee Thorndike with his contributions to educational psychology and social dynamics. Next we might mention Lewis M. Terman, who during the first World War gave impetus to the testing movement which, in turn, has been incorporated in the pre-

sent guidance movement. George D. Strayer applied realism to administrative problems. A. S. Barr promoted the realistic "line-and-staff" conception of administration. And Barr and Franklin Bobbitt contributed many of the techniques we might designate as objective supervision of education. In the psychology of reading William S. Gray, Emmett A. Betts, and Arthur Gates are noteworthy realists. These men set up objective criteria for the reading process which implies that it is a mechanical process. And in the history of curriculum construction the names of David Snedden, Frederick G. Bonser, Wherrett W. Charters, Charles C. Peters, and Franklin Bobbitt are associated as specific objectivists. But these are not the only contributors to the realistic movement. We must not overlook Peter Sandiford as an outstanding connectionist. Nor can we forget the great host of men who have been and are, working with objective intelligence, achievement, aptitude, and personality tests and questionnaires based on atomistic assumptions.

Specific objectivists (realists) have not flourished without keen criticism leveled against them. As early as 1896,[28] when the current realistic movement in psychology was in its infancy, John Dewey criticized on theoretical grounds the reflex arc concept and its implied passivity of the mind. In 1922, William C. Bagley berated the intelligence testers before the National Education Association concerning the undemocratic and deterministic implications of their concept, and shortly afterward the Terman-Bagley feud waxed hot. From that time on there have been numerous criticisms and negative evaluations.

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28. John Dewey, "The Reflex Arc Concept in Psychology," Psychological Review, 1896, Vol. 3, pp. 357-370.

Much of the literature published by Gestalt psychologists is in direct opposition to a specific-objectivist concept of connectionism. Similarly, the publications of Boyd H. Bode and John Dewey are direct in their attack upon realism and its connectionist psychology. Recently two of Bode's students made important studies concerning the realistic implications for learning. H. Gordon Hullfish published his "Aspects of Thorndike's Psychology"[29] in which he pointed out that Thorndikianism implies a passive learner. Pietro T. Orata worked on "The Theory of Identical Elements,"[30] and came to the conclusion that Thorndike's theory of transfer is an atomistic theory implying bond formation and that it is not a theory of transfer but an assumption that identical elements have equal stimulus value.

Wheeler, Perkins, and Bartley in the Psychological Review, 1933, jointly published a critical analysis of various psychological points of view, among which connectionism was featured. In 1935, R. H. Wheeler summarized certain assumptions of connectionism and their implications. He contrasts mechanism with vitalism and shows the manner in which relativism resolves conflicts involved in both theories.[31] Wheeler's study leads to the conclusion that a realistic frame of reference makes a difference to both the processes and the objectives of education.

More recently, E. E. Bayles of the University of Kansas has also

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29. H. Gordan Hullfish, "Aspects of Thorndike's Psychology," Ohio State University Studies, Contributions in Principles of Education, No. 1.
30. Pietro T. Orata, "The Theory of Identical Elements," Ohio State University Studies, Contributions in Principles of Education, No. 3.
31. Raymond H. Wheeler, "Postulates for a Theory of Education II, A Methodology for Educational Research," Journal of Educational Research, 1935, Vol. 29, pp. 187-195.

published a number of articles which present a relativistic anti-absolutistic outlook on education. One of the most concise, yet comprehensive of these is "The Relativity Principle as Applied to Teaching."[32] In addition, there are also available at the University of Kansas a number of unpublished studies pertaining to the resolution of conflicts in educational aims through the application of the Dewey-Bode point of view. Notable among these is the study made by Claude H. Brown.[33]

The problem of absolutism in education is a very real one, and one which has vast significance with regard to an interpretation of democracy and the place of the individual in a democratic society. One may ask: Does absolutism allow for an intelligently active citizen who is aware of the consequences of his behavior and is concerned with a progressive and unlimited refinement of himself and the society of which he is a member? The remainder of this research shall be concerned particularly with the problem of whether Thorndike's Human Nature and the Social Order, and Bobbitt's The Curriculum for Modern Education are adequate guides for education in a democracy. The basic assumptions of realism will be outlined as they apply to an interpretation of human nature, society, the educative process, and the choice of subject-matter in education.

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32. E. E. Bayles, "The Relativity Principle as Applied to Teaching," University of Kansas Bulletin of Education, Vol. IV, No. 4, February, 1940, p. 3 ff.

33. Claude H. Brown, "The Conflict Between the Theoretical and the Practical in Mathematics and Mathematics Teaching," Abstracts of Doctoral Dissertations in Education, University of Kansas Publications, Kansas Studies in Education, Vol. II, No. 6.

# CHAPTER II

## BASIC ASSUMPTIONS OF THORNDIKIAN REALISM

> Ignoring the fact that truth can be bought only by the adventure of experiment, dogmatism turns truth into an insurance company.
>
> John Dewey, Human Nature and Conduct, p. 237.

That a philosophy should be basic to every serious consideration of human nature and society seems axiomatic. It is impossible to plan a program of research, be it scientific, educational, or otherwise, without first accepting an underlying philosophy. Rusk substantiates this when he says,

> The real answer to every educational question is ultimately influenced by our philosophy of life. Although few men formulate it, every system of education is relative to the aim of life. Philosophy formulates what it conceives to be the end of life; education offers suggestions how this end is to be achieved. [1]

Rusk even goes so far as to say that an educator's philosophy has bearing on such detailed items as: 1. choice of texts, 2. whether or not he will use fairy tales in his teaching, 3. how he will use leisure moments, and other equally specific items. It would seem then, in studying the educational plan of any person or group of persons we must first determine what are the basic assumptions underlying the plan.

Thorndike, an acknowledged realist, holds that educational practices are dependent on opinions regarding educational topics, [2] but he does not bother to state his own underlying philosophy. Human Nature

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1. R. R. Rusk, The Philosophical Bases of Education, p. 15.
2. Edward L. Thorndike, Educational Psychology, (1903), p. 2.

and the Social Order, his recent book, bears no denial of the value of philosophy as a forerunner of research, but it is replete with implications that any such theory or philosophy must await the outcome of an unbiased investigation of reality before it can be stated. In other words, it is doubtful that Thorndike regards theory and philosophy as necessary in the scientific process.

It is not important that we observe Thorndike's reluctance to commit himself to an underlying philosophy, but it is important that we try to discover whether or not he has made any commitments which would necessitate a definite course of action. For it is quite possible that despite his reluctance to state a fundamental position with reference to human nature and society, he has never-the-less committed himself by following patterns of thought which rightly may be designated as basic theories. In fact, it is quite proper to regard his plan of action as involving certain basic assumptions which, though unstated, are never-the-less active and effectual controls in determining both the generalized and the particularized characteristics of the plans. In general we will concern ourselves with ascertaining Thorndike's assumptions bearing upon these three problems:

1. What is the nature of reality?
2. What is the nature of truth?
3. What are the means of ascertaining truth?

But before we analyze the philosophy of Thorndike, it is well for us to remember that the various schools of thought, such as idealism, realism, and relativism, each has its own educational theories and practices when it comes to these three problems. Each has its own concepts concerning the nature of reality and truth and the means of as-

certaining truth. When an educator seriously chooses to become an absolutist (either a realist or an idealist), or a relativist he determines to a large extent his frame of reference for educational practices. Following is a brief summarization of the principles involved in the positions mentioned as they pertain to reality and to truth.

A. The Nature of Reality.

While we may classify patterns of thought as being idealistic, realistic, or relativistic, we are primarily interested in identifying absolutism and in contrasting it with relativism with regard to the basic issues involved. Actually it matters little whether reality is taken to be metaphysical or whether it is taken to be material. What does matter is whether reality is assumed to be fixed and settled or whether it is found to be mainly a flux of changing relationships. The person who takes reality to be settled and independent, attributes to it an immutable fixity. For him reality is self-contained, and in order to discover what it is, he must examine its content. Ultimately he, the realist, will find that he must depend upon the electrons and protons to account for the nature of any reality. He finds the meaning of reality only within its properties or content. That is to say, by a reduction of any supposedly self-contained reality into its elements, a realist attempts to discover the independent and fixed meaning of any reality. Thus, realists must not only hold that reality is fixed, but also that its meaning is fixed.

Relativists represent a position distinctly different from this absolutistic one. In the first place, relativists hold that reality is to be found not simply in substance, but also in processes and relation-

ships. In fact, the reality of relationships is taken to be more significant than that of substance or inherent elements. That is, each identity is a reality which may not necessarily be explained on the basis of its parts. Moreover, the reduction of any identity into its elements destroys the configurational relationships and consequently obscures the true meaning of that reality. This view is expressed in the statement that "the whole is more than or different from the sum of its parts." As one grasps the notion that the universe is in a state of flux and that it represents a great many changing relationships or different configurations, it becomes obvious that particular identities are simply moments or cross-sections of a process. Whitehead states,

> Nature is a structure of evolving processes. The reality is the process. It is nonsense to ask if the color red is real. The color red is ingredient in the process of realization. [3]

The emphasis shifts, then, from the content of identities to the relationships they represent. More specifically, a relativist seeks to ascertain the relationships represented by things and persons, the relationships of things to other things, of things to persons, of persons to persons, and of things and persons to the observer. That is, each identity may have a variety of significant meanings. These meanings are realities. They are not fixed and independent, but are changing as they reflect changing relationships.

It is true that some relationships appear to be more or less constant with reference to a period of history or the age of man. For instance,

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3. Alfred N. Whitehead, Science and the Modern World, p. 102.

the appearance of the sun over the horizon may have a singular and relatively fixed meaning to a person or a group of persons. This phenomenon appears to be absolute. It is not absolute, nor is its meaning absolute, but its comparative constancy may lead some to accept it as relatively absolute. Another type of relationship may recur under a variety of circumstances. Thus a melody represents an identity regardless of the key in which it is played, and learning usually takes place when an individual is confronted with a problem and the means of obtaining insights. These are more or less stable relationships which may be translated or transposed into a variety of specific situations. They may be described as relatively absolute. But the emphasis upon processes, changing relationships, growing insights, and expanding meanings rather than upon fixed structure and content restrains the individual from accepting any one interpretation of reality as final.[4] The consequent "open-mindedness" will force one to anticipate and actively participate in the reorganization of specific data or phenomena into new realities which have new or changed meanings in keeping with the demand of current insights.

B. The Nature of Truth

Just as an absolutist assumes reality to be a discoverable entity,

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4. If one holds the relatively absolute to refer to absolute relations, then he also becomes an absolutist. For him the shift is from the content of an identity to its relationships. In his thinking, the relationship is fixed and changeless. He develops a "closed mind" that will admit no reorganization in the light of experience. If there is an absolute relationship, we have no way of identifying it as such. To accept anything as an absolute may perpetuate an error in judgment, but to maintain a critical and open mind toward all judgments will avoid perpetuating error, may lead to new discoveries, and yet will not prevent the application of any workable hypotheses.

so he also claims truth to be a discoverable phenomenon. To a realist, truth is a statement which is truthful to the degree to which it corresponds to and accurately measures and reports upon objective, material phenomena. To an idealist, truth is a statement which corresponds to some eternal principle or metaphysical phenomenon. Anyone familiar with the age-old question, "What is truth?" will recall this was one of the chief points of contention between Plato and Aristotle. Plato held that truth corresponds to conceptual, metaphysical phenomena, and Aristotle held that truth corresponds to perceptual, material phenomena.

A relativist does not presume truth to be any fixed or absolute statement which may have existed prior to its discovery and will continue to exist throughout the ages. To him truth is that quality of a statement which enables him to follow its implications in order to plan and carry out successful behavior which accomplishes what it is intended to accomplish. A relativist looks upon truth as a verbal formulation or description of a relationship which appears to the observer to provide a basis for adequate and accurate prediction of observed events. Truth serves the function of hypotheses which must be tested and retested by the observer. Truth is the tentative interpretation of an event, process, or relationship with a view toward an insightful, goal-directed, plan of action. Raymond H. Wheeler describes the relationship of an hypothesis to scientific laws in this way,

> Reduced to simplest terms scientific insight involves: (1) Comprehending a law or set of laws, or in other words, a general fact about nature, at first relative to only a few observations. (2) A law, thus discovered, through insight, is defined as an hypothesis giving meaning to the event, or explaining the fact observed. (3) The law, or

> hypothesis, is then used in order to plan an experiment, to set up controlling observations, and to invent measuring devices. This in turn is done to determine if, under a more careful procedure, the law or hypothesis still holds. No experiment can be planned, no set of observations can be intelligently made, in the absence of an hypothesis, or, the comprehension of a natural law. [5.]

C. The Method of Ascertaining Truth

An absolutist seeks to arrive at truth through some form of revelation. An idealist does it through such media as intellect, intuition, or some kind of metaphysical revelation. So far as being useful in the promotion of mental activity, an idealist's position has much to commend it, but when it assumes that truth is found, a priori and is settled or fixed, then assurance and dogmatism become manifest where reflection and constant alertness should prevail.

Realists deny the reality of ideas as such, but in the last analysis they too hold a position agreeable to the "revelation of truth" concept. Their emphasis is upon the reality of physical matter rather than on the metaphysical. Consequently they do not believe in ideational revelation, but rather in a substantial or perceptual one. Briefly summarized, idealists hold that revelation of truth comes to ideationally sentient beings, whereas realists hold that nature reveals herself to physically sentient beings. In either case the revelation is fixed and not open to further inquiry. The criterion for truth is, whether or not is parallels settled and ultimate reality.

From a relativistic point of view the problem of achieving truth is one of formulating workable hypotheses upon which to base intelligent

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5. Raymond H. Wheeler, The Science of Psychology, (Second edition) p. 12.

action. This problem is one which concerns itself with an evaluation of a situation in terms of what it will lead to rather than in terms of mere awareness to the situation in which the individual finds himself. This is an evaluation of a situation through a reflective process rather than through a sensing of physical and physiological stimulation. An idealist proceeds from his basic assumption by a process of deduction, and a realist proceeds by a process of induction. But a relativist proceeds by a deductive - inductive or reflective process in which he hypothesizes first, then tests and later may revamp his hypotheses. The relativistic position implies that dynamic processes and changing relationships can be taken into account only by assumptions embracing whole identities. These assumptions are the hypotheses which are put to the test and revamped as changing relationships and growing insights may require.

Dewey has this to say in connection with the problem of formulating truth,

> The rationalist was thus right in denying that sensations as such are true elements of knowledge. . . . Sensations are not parts of any knowledge, good or bad, superior or inferior, imperfect or complete. They are rather provocations, incitements, challenges, to an act of inquiry which is to terminate in knowledge. [6]

More specifically, for realists and idealists the process of arriving at truth is more or less terminal. Once absolute truth is found individuals must adapt themselves to it. But for a relativist the process of arriving at truth is postulating a workable plan of action to solve a problem. This process continues throughout one's life. For this

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6. John Dewey, Reconstruction in Philosophy, p. 89.

reason Pratt tells us a pragmatist's knowledge is not a state, but a process which consists of operations or ways of acting.[7] Wheeler[8] suggests the same when he treats the principle of derived meaning, which implies that if parts have their meaning on the basis of relationships, then our notions concerning these relationships must be as flexible as the fields are fluid. The assumptions which we accept "as if"[9] they were workable, provide the first step for action. Experience and insight will lead to modification or rejection of these hypotheses. Hence Taba writes,

> Laws as tools should keep their functional relationship to the events themselves and should represent changes to the same degree that events do.[10]

And now before going to Thorndike's assumptions concerning the nature of reality, the nature of truth, and the means of ascertaining truth, let us summarize briefly a realist's, an idealist's, and a relativist's position with regard to each of these. Idealists and realists are partially in agreement in as far as both assume the fixed and independent qualities of reality. A relativist holds that reality is a quality of an object or idea rather than an entity in and of itself. Absolutists, both realists and idealists, assume that truth is the correspondence of a statement with reality. And it follows that if reality

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7. James Bissett Pratt, Adventures in Philosophy and Religion, p. 10.
8. Raymond H. Wheeler, Science of Psychology (1940), p. 20 ff.
9. Kilpatrick uses "as if" to describe an hypothesis upon which a plan for action is initiated. The acceptance of a statement is tentative, as if it can be tested. Dewey implies the same with his use of "if - then". If this is true, then I may. . . . "As if," "if then," and induction-deduction all imply the initiation of a process rather than the conclusion of a truth-finding formula. One who postulates is obliged to apply the test of experience.
10. Hilda Taba, The Dynamics of Education, p. 58.

is fixed, truth must also be fixed. Idealists and realists differ from each other at this point only in that idealists hold truth to be revealed by intuition, divine intervention, revelation, or by reason; whereas, realists hold truth to be revealed to the individual through his senses. Here again relativists are distinctly different in that they consider truth a working hypothesis, a formulation of ideas which serve as the basis for further operation.

Both idealists and realists hold that truth is revealed. This assumes a passive individual. And in this truth-revelation, the finding of truth is an end in itself. But when a relativist formulates truth, he does his hypothesizing for the purpose of planning a future course of action. He is neither passive to truth nor is he stopped at the achievement of a scientific law. Rather, he continues to be active both in regard to re-evaluating his hypothesis and in applying the principles involved.

D. Thorndike's Assumptions Regarding Reality and Truth.

In the light of the previously cited interpretations of reality and truth, we should now be prepared to ascertain just what position Thorndike maintains. We must bear in mind that if he is a realist, as he professes to be, he may very likely be an absolutist and may represent an undemocratic outlook on life. There are three questions which should point up our thinking in this regard. They are:

1. Does Thorndike assume reality to have fixed and independent qualities, or is it presumed to be relative?
2. Does Thorndike take truth to be a description of reality which can be treated in isolation and as settled, or is it a working proposition having bearing upon a plan of action?
3. Does Thorndike expect truth to be revealed to him, or does he expect to formulate it as a working hypothesis?

1. Thorndike's Concept of the Nature of Reality

In the past, Thorndike's position has been described as realistic, because he holds that reality has a substantive quality. His statement that, "Whatever exists at all, exists in some amount,"[11] is somewhat indicative of this position. However, many years have elapsed since Thorndike made this statement, and he may since then have changed his position. Granted that this may be true, let us examine some of his more recent statements.

We find for instance that he has taken what appears to be a relativistic position with regard to social relations and social concepts. As to the group, he holds: " . . . a person is not simply one tenth in an amorphous group of ten."[12] (p. 757) That is to say, the whole group is more than the sum of its members. Traditionally this is an organismic position and is therefore opposed to the atomistic position ordinarily associated with Thorndike. In this same connection he also states that conscience is a function of time and the social situation.[13]

However, Thorndike does not take the relativistic position very seriously for in many instances he indicates that the reality of human nature is to be found within the absolute gene-determined structure of the individual. For instance, with reference to the protector or protected role an individual may play in society, Thorndike writes that "It has roots in the genes." (p. 741) Or with reference to rulers, he states that nature impels them to crave power. (p. 441) Another ex-

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11. N.S.S.E., Seventeenth Yearbook, Part II, p. 16.
12. References in parenthesis refer to Thorndike's recent publication: Human Nature and the Social Order unless otherwise indicated.
13. "Conscience has urged billions of men to conduct which is good for the group in which they have been brought up. . . " (p. 733)

ample is the differentiation of producer and consumer on the basis of gene-determination. He writes that "Some producers produce because their natures impel them to do so...." (p. 640). Thorndike does not necessarily preclude social factors in his accounting for these types of behavior, but he stresses inherent, gene-determined factors in describing human nature. The point is that he attempts to ascertain the reality of human nature by reducing it to its genetic parts. For instance, in another place he writes,

> Certain combinations of genes are favorable to the production of feeble-minded, insane, moral perverts, grafters and others who do the world more harm than good. (p. 449)

It is possible that a small percentage of our feeble-minded are so determined by an unfortunate combination of the genes, but there is sufficient evidence to indicate that feeble-mindedness is largely an index of a lack of cultural opportunities. Similarly, insanity, perversions, and criminal conduct are largely reflections of individuals interacting with abnormal situations. But Thorndike attributes these patterns of conduct mainly to absolute determiners within human nature.

A relativist would not ignore the part that heredity plays in determining human nature, however, he would find human nature to represent a process of interaction of hereditary forces with environmental forces. For instance, Jennings writes ". . . what the body as a whole shall become - depends not alone on what it contains - its 'heredity' - but also on its relation to many other conditions, on its environment."[14] Thus the difference between Thorndike's position and a relativistic one is one of emphasis. But the significance of this emphasis is

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14. H. S. Jennings, Prometheus, p. 32.

that Thorndike attempts to account for the reality of human nature mainly on the basis of the genes rather than on the genes and their relationship to environment as Jennings does.

In another respect Thorndike reduces the human organism into its elements in order to ascertain its absolute nature. He states,

> A man's nature at any given stage would be expressed by a list of R's which he would make to whatever S's could happen to him. . . . (p. 5)

In describing the human organism it may be important to mention the neural pathways and the part they are assumed to play in human behavior. But Thorndike does not limit himself to this type of description, rather he makes a statement that commits him to an absolutistic position. By describing the reality of human nature as a group of reflex arcs he attributes to human nature an independence inherently explicable. This is just another instance of his absolutistic interpretation of a reality and his accounting for its meaning by means of inherent qualities.

A third example of Thorndike's realistic absolutism and its implied reduction of a reality to its parts in order to ascertain its nature is an outright assertion that human nature can be reduced to its atomic elements. Let us first observe what Weiss, an acknowledged realist, states in this regard. He writes,

> The formulation of the behavioristic position is then expressed in the statement that all human conduct and achievements reduces to nothing but: (a) different kinds of electron-proton groupings characterized according to geometric structure; (b) the motions that occur when one structural dynamic form changes into another. [15]

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15. Weiss, "Behaviorism and Behavior," Psychological Review, Vol. 31, 1924, pp. 39-40.

Thorndike, although he writes less incisively, holds that,

> Man is creative, not because he is in part supernatural or extra-natural and imposes a super- or extra-natural will on nature, but precisely because he is, in part or altogether, a natural object, linked in the chain of natural causation, and playing a role in nature's long drama. The fundamental basis of that drama may be very simple, nothing but moving electrons and protons which perhaps have always been and always will be the same. . . ." (p. 397)

Here, Thorndike pratically closes the door to any other interpretation of human nature but that of a realist. He reduces the reality of human nature to genes on the one hand, to the reflex arc on another hand, and in this instance to its electron-proton content. It is reasonably certain that for Thorndike elements of human nature have absolute qualities which are regarded as being fixed and independent.

2. The Nature of Truth According to Thorndike.

In discussing the difference between absolutists and relativists regarding the nature of truth, we noted that both realists and idealists agree that truth is a statement which corresponds to reality. The implication we must not fail to note is that if such truth is achieved, it must have some degree of objective independence, or inherent stability. Thorndike assumes this when he writes,

> The truth, in the sense of these ideas about reality which correspond to it, enable us to predict it, and lead us to adapt ourselves to it, and it to wants which are satisfiable by it, is a pure good. (p. 345)

This statement seems to imply that any truth has within itself the essence of the eternal to the extent that it corresponds with reality. Absolute truth is established only when there is perfect correlation between a statement and reality. Its test would probably be the frequency of its occurance. Its emphasis is on what has happened rather than on what shall be done. Thorndike does not regard truth as a work-

able plan of action. Instead, it is a crystallization of observed phenomena apart from the observer. Moreover, it is a settled matter by which individuals adapt themselves to reality.

Relativists agree that some phenomena occur with such regularity and in such a precise manner that we accept a description of the phenomena as being true. Nevertheless, these recurring phenomena are parts of a whole situation, and may change as the whole gradually changes. Moreover, truth is really a postulation that has reference to a plan of action, and in this respect truth must bear not only on the nature of the regularly recurring incident, but also upon the individual's conduct pertaining thereto. If one takes into consideration, then, that a phenomenon may be expected to repeat itself only if certain relationships persist, and that in every instance it has a particularized meaning with reference to a specific plan of action, a description of it cannot become an isolated datum or principle. Truth must be a part of a planning or problem-solving life, not an item to be abstracted, labeled and shelved. Thorndike seems to have this in mind when he writes,

> Demonstrable truth will be relatively inert and sterile educationally if it fails to tell what ought to be done, what is good, fine, humane.[16]

However, in Human Nature and the Social Order, he says, ". . . it is better to add to the truth than distribute it to more persons; . . ." (p. 453). Is he implying that truth can be accumulated and deposited into a bank of knowledge apart from situations and problems? In this respect truth becomes an end in itself. This much is certain, truth is

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16. Edward L. Thorndike, The Teaching of Controversial Subjects, p. 12.

for Thorndike something that is decided upon as settled once and for all. Truth, then, appears to have an independent value apart from problematic situations or a planning society. This position identifies Thorndike rather distinctly as an absolutist.

3. Thorndike's Means of Achieving Truth

If there is any doubt as to Thorndike's conception of reality and truth, a study of the devices he uses to find truth should bring him out into the open. We might use the analogy of a highly specialized fisherman who fishes only for certain kinds of fish in certain bodies of water. By examining his tackle box it should be easy to ascertain what fish he believes can be caught in any one body of water. Let us then examine Thorndike's "tackle box" to find what he is going after and what methods he will use to achieve truth.

We will start by quoting his sentiments concerning the part revelation plays in truth-finding: "The God of science is revealed in reality, . . ." (p. 351). The point he makes in his discussion of this is that science does not necessarily test by means of experimentation the plans of thinking men and women. Instead, science is a vast collection of the sense perceptions of these men and women. This is not much different from Aristotle's realistic theory of knowledge. The same theory is found in the writings of Thomas Paine who refused to accept religion as truth on the basis of Biblical revelation. He chose instead to accept it only on the basis of revelation through nature.[17]

Thorndike's way of arriving at truth is nothing more than a behaviorist's concept of knowledge in which the stimulus is the revelation.

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17. Thomas Paine, "A Discourse," The Works of Thomas Paine, p. 280.

This implies a passive, non-selective, yet highly sensitive being who is constantly subjected to stimulating impacts from without. Logically, this concept can be carried to the point of non-selectivity wherein organized research or "looking for truth" has no place. Thorndike talks about looking for truth, and he mentions testing opinions under certain situations, but actually we shall observe that he assumes objective observers to be passive to the impact of reality upon the sensory organs.

To Thorndike truth-finding is an objective process. It is a measurement of what already exists. He says, "Whatever exists at all, exists in some amount."[18] And the way to become sure of these existing things is to observe or measure them objectively. Objective facts are the only data which are impartial.[19] Objectivity alone is reliable. He writes of objective science,

> The scientific method is dependable. Proposed treatments to cure political, economic, or other social ailments should be studied as far as possible by the impartial method of science. . . . (p. 958)

When Thorndike refers to the scientific method, he means an impartial, objective method of ascertaining truth in which everything is treated quantitatively. This implies that induction eventually leads to truth if there are sufficient collected data at hand. He goes on to say,

> The first important fact is that all things which can be experienced or thought by man can be valued by him, - can be judged good, bad, or indifferent. (p. 340)

If, then, experiences can be evaluated, they can also be scaled quantitatively even thought they are personal and involve such things as

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18. Seventeenth Yearbook, N.S.S.E., Part II, p. 16.
19. Thorndike writes, "The ideal judge is absolutely impartial, but this is a psychological impossibility except in treating entirely objective facts." (p. 917)

wants and desires. He says,

> We know and measure men's wants, pleasures, etc. as we know and measure their heights and weights and body temperatures, by the data of our senses treated by our intellects. (p. 166)

By following this train of thought, Thorndike eventually arrives at a position which makes truth absolute, a thing apart from the observer and something which can be abstracted or isolated into strict categories or types of phenomena. He writes, "Statistics lie much less often than statisticians, and non-statisticians lie oftenest of all." (p. 810) Truth has been achieved if there is a high coefficient of correlation. Also, by recording the frequency of incidence, truth is achieved. Isolated data in and of themselves, without regard for the inquiring mind using the data, are presumed to possess self-contained truths which the so-called objective inquirer can ascertain and then impart to the masses.

Thorndike neatly illustrates his belief in the emergence of truth from a mass of data, and that the facts speak for themselves when he makes this statement,

> . . . we are planning to work with facts before we talk about them. We will know what we are talking about when the time comes. (p. 725)

In another connection he writes, "The psychologist awaits the facts." (p. 852) In other words, the psychologist does not formulate truth, he awaits a revelation of truth through facts.

When we assume that facts will speak for themselves, and when we assume the "data of our senses treated by our intellects" (p. 166) will yield truth, we are committed to the proposition that meaning is inherent in the data and not that data are instrumental to testing hypotheses in a scientific, problem-solving process. For when meaning is

independent or self-contained in so-called objective data, the individual incidences are self-explanatory. The electrons and protons explain the nature of man and of the universe.

Yes, Thorndike has committed himself to an atomistic concept of reality and its associated process of induction as the means of discovering truth. It follows, then, that in so far as he is biased toward atomistic induction as the means of arriving at truth, he pronounces himself to be an absolutist.[20]

In consequence to his notion of fixed truth, Thorndike recommends an accumlation of truth for the improvement of society. He says, ". . . it is better to add to the truth than to distribute it to more persons . . . ." (p. 453) In another connection he says, ". . . things good in themselves are better, other things being equal, than instrumental goods." (p. 375)[21] Listed among these intrinsically good things is truth. To return to our analogy of the fisherman, it would seem Thorndike has equipped his tackle box with the necessary gadgets to catch atomistic absolutes.

4. A Summary of Thorndike's Basic Assumptions and Their Democratic Implications.

Thorndike has definitely taken his stand with the absolutists in his interpretation of reality, the nature of truth, and the means of

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20. Support for the contention that the atomistic outlook, by leaning heavily on induction alone, reflects an absolutistic frame of reference is treated more adequately elsewhere. Two excellent discussions of this are found in Raymond H. Wheeler, The Laws of Human Nature, and J. F. Brown, Psychology and the Social Order.

21. "Some events and acts are almost pure goods. Almost all their consequences produce much satisfaction and little or no discomfort. The discovery of truth by a man of science, the composition of a fine symphony, the painting of a picture, -- such make the creator happy and enrich mankind." (p. 373)

arriving at truth. To him, reality is fixed and independent of the observer, and truth is revealed to a passive recipient through sense impressions. Truth is a body of settled conclusions. Reality is found in the elements, and it can be measured as we measure electrons and protons. The elements of an identity are presumed to contain the meanings inherent to that identity. Thus, Thorndike is a realistic absolutist. We can assume that with regard to the "known" or true, he will be an authoritarian.

While it is true that Human Nature and the Social Order does not presume to attack the problem of reality and truth, it does set forth Thorndike's self-imposed limitations. For the most part, his analysis of reality and truth, and the devices he uses for ascertaining truth are strictly atomistic and absolutistic. To be consistent, Thorndike must prescribe an educative process and a social organization in keeping with his fundamental assumptions. If he does, we shall be in a position to judge for ourselves whether an absolutistic realism is acceptable for a democratic design for living.

# CHAPTER III

## HUMAN NATURE AND DETERMINISM

> You have already grasped the notion that the behaviorist is a strict determinist--the child or adult has to do what he does do. The only way he can be made to act differently is to untrain him and then to retrain him.
> John B. Watson, Behaviorism, (1930), p. 183.

### A. Conceptions of Human Nature

#### 1. Absolutism and Relativism

In the proceding chapter we found Thorndike, for the most part, absolutistic in his interpretation of truth and reality. The problem now confronting us is: Will he allow this same absolutistic frame of reference to affect the conclusions he draws concerning human nature? The point at issue is that if he is absolutistic with regard to human nature, he is probably deterministic. It is obvious that in a democratic society, where the individual must be free to make his own decisions and weigh consequences, there can be no determinism, whether it be by virtue of imposed authority, forces, or inherent behavior patterns.

Among the absolutistic approaches to human nature there are two distinct positions, the vitalistic and the atomistic. A vitalistic position seeks to account for human organization, the continuity of the individual, and the differences in personality on the basis of an imposed deus ex machina. This has been described by some as the hormic or personalistic point of view.

The atomistic position has already been touched upon in the discussion of a realistic interpretation of human nature. It accounts for human organization, continuity, and personality differences on the basis of elemental content. Titchener's psychology, known as structuralism,

holds such a position, but is at present passe. Behaviorism, which professes to be in conflict with structuralism, is also atomistic. Despite its functional emphasis, it resorts to an analysis of an organism's content in order to account for its behavior. Wheeler writes of behaviorism in the following manner:

> In the logical framework of its assumptions and working principles, behaviorism was structuralism over again on the side of muscular movement. The psychologies of Watson and Titchener were twins, the one on one side and the other on the other side of the dualistic barrier. The only excuse behaviorism had for claiming a title to her functional system was its use of the term behavior and its effort to predict. [1]

Both structuralism and behaviorism may be considered as atomistic because they hold that human nature is reducible to elemental parts. They find meaning inherent in the parts. And because the parts are deemed absolute they are presumed to be determiners of human nature.

Vitalistic psychologists differ from atomists in that they insist the meaning of human nature cannot be found by a mere examination of the parts. Both agree that meaning is inherent and fixed. But vitalists presume the organism to be dominated by "drives," "instincts," "ego," "the self," and other imposed forces. And, presumably, back of it all is an "eternal," "continuing" principle or plan which keeps human nature going in the right direction. Both vitalists and atomists may place a functional interpretation on factors which control human nature, but in the last analysis they are absolutistic since they derive meaning from the nature and content of an absolute. The absolute principle or factor is usually assumed to be the determining element of human conduct. So whether the absolute is physical or metaphysical

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1. R. H. Wheeler, The Laws of Human Nature, p. 42.

is unimportant. The point is that human nature is accounted for by absolutes and may be regarded as independent of time or circumstances. Thus vitalism, which is idealistic, and atomism, which is realistic, are both deterministic.

At this point it might be well to note that the rigid limitations of both idealism and realism are resolved by most absolutistic psychologists by their adoption of an eclecticism. Some absolutistic psychologists who stress the physical qualities of the human organism and consequently lean heavily on an atomistic interpretation of human nature, will resort to a vitalistic explanation when they account for the "whole" personality. Similarly, idealists, unable to account very satisfactorily for physical structure will often shift to an atomistic position in their accounting for specific acts of behavior. In their fluctuations, however, they usually shift from one absolutism to another since they believe that an identity must be accounted for by some self-contained substance or principle.

A relativist avoids the pitfalls of the two extremes, idealism and realism, by finding the meaning of the organism existing in the relationships it represents rather than in fixed parts. He points out that a part, such as a neural pathway, has meaning in its relation to the whole organism. He makes no dualistic distinction between a whole and its parts. Neither does he consider the whole as the sum of its parts. The parts are meaningful only in terms of their functional relationship to the whole, in their interaction with the whole and with other parts. They are part and parcel of the whole organism, and not simply dominated by it. That is, mind and body or personality and body are all part and parcel of a dynamic field of energy, the individual. Ex-

pressed otherwise, it may be said that the nervous system is an emergence to facilitate the solution of one type of human problem, the endocrine system is another, mind is another. But to describe human nature as a composite of these systems is to work in reverse. These systems are accounted for by the organism. Moreover, specific acts are said by relativists to require no different explanation than human continuity, for the acts are part of a pattern of conduct reflecting specific interactions of the individual in the progression of relationships. Consequently, no parts of the individual are held to have inherent qualities which determine in and of themselves specific modes of conduct of the organism.

2. Determinism

Vitalism implies determinism through deus ex machina. That is to say, vitalists expect to find certain dominating and integrating forces imposed upon the physical elements of an organism. Some say this force is metaphysical or supernatural. Others say it is biological or superanimal and finds expression in mating, feeding, self-protection and similar types of drives or instincts. But in both instances the individual himself has no control over it; basically he is passive to supernatural forces or biological drives. The element of personal choice must therefore be subservient to a dominating drive or spirit. This is the kind of determinism William James refers to when he writes,

> It professes that those parts of the universe already laid down absolutely appoint and decree what the other parts shall be. [2]

But one may ask, "What has determinism to do with realism?" Vitalistic

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2. William James, The Will to Believe, p. 152.

determinism is often injected into realistic psychology at its weak points. It is reasonable to expect a bit of vitalism in Thorndike at points where a realistic conception of human nature is inadequate. We should be on the alert for these shifts to vitalistic determinism. Moreover, since realism is absolutistic, it is also deterministic. That is, if anything basic to the human organism is absolute it may possibly require conformation rather than reformation. Thus, atomism may be no less deterministic than vitalism. We recall that John B. Watson writes, ". . . the behaviorist is a strict determinist. . . ."[3] If Watson can make this assertion because he is a realist, then we can expect Thorndike to follow suit.

One of the problems now confronting us is to ascertain if Thorndike's realism leads him to accept a deterministic approach to human nature. If he shifts from realistic atomism to vitalism, we shall be alert for the deterministic implications of his shift. If he is consistently atomistic, we must be no less alert. But let us first find how Watson justifies his determinism and then compare and contrast Thorndike's position with this pattern.

At the outset it would seem we must be particularly aware of tenets which bear upon the passivity of the individual and the amount and kind of freedom of choice made available to him. We must remember that democracy does not tolerate, foster, nor intend to use passive individuals who cannot make choices on their own initiative. We must further remember that, at the present time, democracy is the only form of social organization and philosophy of life which considers the individual as

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3. John B. Watson, Behaviorism, (1930), p. 183.

someone who must be reflectively active. In other words, unless individuals are free to conduct themselves on the basis of freedom of choice and with reference to consequences, there can be no democracy.

3. A Realistic Conception of Human Nature

a. Primacy of the Parts.

First of all, we must recall briefly that realism assumes the primacy of the parts. It is a system whereby its adherents endeavor to construct wholes by uniting the primary parts. These parts are presumed to contain inherent qualities which determine their mode of action and which cause them to be considered as self-sufficient. In describing this position, Wheeler reminds us:

> If the parts come first, if they are primary, there are at first no relations between them. How can relations be obtained when in the beginning the elements are totally unrelated to one another; when they are completely unaware of each other's existence; when their "forces" are unrelated? Nothing can happen in such a world. If you do not begin with the parts and the relations, too, you cannot begin at all. [4]

Realists usually begin with electrons and protons as the primary and absolute elements of human nature. Chemical processes are the bases for human behavior. J. B. Watson describes behavior thus:

> When a sense structure, like the eye, ear or nose is playing upon a stimulus, a chemical process of some kind is started which releases a neural impulse in the system of conductors. [5]

The chasm between the concept of chemical reaction and of neural conduction is a broad one which realistic psychologists cross blithely and with little concern. As Adams writes:

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4. R. H. Wheeler, Science of Psychology, (Second Ed.), p. 18.
5. J. B. Watson, Psychology From the Standpoint of a Behaviorist, (Second Ed.), pp. 48-49.

> The materialists start with the idea that man is a machine in good working order. They do not go into the question of its origin. [6]

Realists start with electrons and protons, and suddenly they have units, simple acts or connections the unity of which they do not try to explain very adequately. Those units or parts are the native reflexes, of which Watson has the following to say:

> We find a multitudinous group of poorly integrated reflexes consisting of kicking, slashing with the hands and feet, and wriggling of the whole body, and of movements of the vocal cords. [7]

That is to say, a human organism is possessed of a great many neural connections at birth. The repertoire of such connections (acts) is presumed to be complete. Watson states specifically:

> Certainly at birth or shortly thereafter the elements or unit acts out of which every habit is formed can be noted. We mention the contraction and flexion of the fingers, of the lower and upper arm, raising and lowering the head, rotation of the head, bending the trunk from side to side and backward and forward, well-systematized movements of the legs, and a host of others. The conclusion is forced upon us that in habit no new elementary movements are needed. There are enough present at birth and more than will ever be combined into complex unitary acts. Since so many of the psychological texts speak freely of the formation of "new pathways" in habit it seems well to call attention to the simple mathematical fact that the number of simple permutations and combinations of, say, one hundred unit acts is a staggering number. Such speculations, though, are futile. One needs only to examine the five- or six-day-old infant to be reasonably convinced that there is no need for the formation of additional reflex arcs to account for all later organization. [8]

What Watson is attempting to do is to describe the human organism by an analysis of its parts.

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6. Adams, Evolution, p. 323.
7. J. B. Watson, Psychology from the Standpoint of a Behaviorist, (Second Ed.), p. 4.
8. Watson, op cit, p. 293.

Relativists have no argument with scientists who would attempt to describe the chemical processes or the neural structure of the human organism, but they resent any attempt to describe the function of a whole organism in terms of the elemental parts or processes. We find in the following statement what Wheeler and Perkins have to say about this atomistic approach.

> The mechanistic conception of nature is based upon the false assumption that the complex is to be explained in terms of the simple. This means that wholes are to be explained in terms of parts, which in turn implies that parts come first. For example, a chemical compound is to be explained in terms of elements; the body by means of cells; consciousness by means of mental elements known as sense 'impressions,' ideas and feeling; movements by means of elements known as reflexes. [9.]

With regard to the futility of analyzing personality from the atomistic standpoint we read,

> The personality evolves, a single pattern of behavior, with each act depending upon every other <u>while it is emerging</u>. [10.]

The point they make is that to endow the parts of an individual with absolute and determining qualities is a scientific error. The human organism, and any particular system within an organism, develops in totality, in wholes, and the parts emerge as the functional requirements for them appear. In other words, any part must be interpreted in the light of its relation to the whole. Neural conductors are obviously present in the human organism. There are some responses which occur with such ease that they appear to be neural connections. But to account for human nature on the basis of the neural pathways or the facile integrating matter between these pathways is erroneous. Lashley

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9. Wheeler and Perkins, <u>Principles of Mental Development</u>, p. 16.
10. <u>Ibid</u>, p. 25.

reports.

> Our data seem to prove that the structural elements are relatively unimportant for integration and that the common elements must be some sort of dynamic patterns, determined by the relations or ratios among the parts of the system and not by the specific neurons activated. [11]

We are reminded that in a way Watson believes that the organism operates as a whole, but in accounting for the organism, he reduces it to the so-called self-sufficient parts. And consequently he places emphasis upon the parts which take on absolute and determining qualities. It would be more appropriate to account for these afore-mentioned parts in terms of the functional relationships they maintain with the whole organism. In other words, the parts are not absolutes, and consequently are not self-determiners, nor independent determiners of the qualities of systems or "wholes" to which they belong.

Briefly, let us summarize the difficulty confronted by the atomistic position as it deals with the problem of human nature. In the first place, it is false to assume that by a process of reducing the organism to its constituent parts we can learn to know what it is. By an atomistic analysis we find only a description of contents and very little, if anything, that may indicate meaning or function. The parts in and of themselves cannot account for organismic integration. Moreover the practice of reduction implies that the parts are absolute. If they are absolute they determine in and of themselves what the nature and conduct of the organism will be.

b. The Organization of the Human Mass

Needless to say, the smooth operation of a human machine requires, even for a realist, some overall arrangements and direction. A vita-

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11. K. S. Lashley, Brain Mechanisms and Intelligence, pp. 172-173.

list can easily explain how this is done; he simply endows a heterogeneous mass of life with "self," "spirit," or some other agency apart from the mass itself. But Watson and other realists object strenously to this kind of explanation, and treat it as a remnant of primitive beliefs. Consequently realists must endeavor to explain organization on the basis of physical premises, and this is no easy matter. There are a number of distinct aspects to this problem. We shall undertake an examination of some of the most pronounced, including:

1. Initial organization and continuity of human nature.
2. The acquisition of new organizations.

(1) Initial Organization and Continuity of Human Nature.

To begin with, we should keep in mind that a realist skips from the primary elements of electrons and protons to reflexes which are organized electrons and protons without making an adequate explanation for this skip. But even if we grant him the use of the reflex as a simple element of human nature, he still faces the problem of bringing together and integrating these reflexes in order to have any united action of the organism. To indicate the nature of this problem we might cite the work of Bechterew[12.] who experimented with a decerebrate pigeon. The bird, standing on a hot perch, would first raise one foot and then the other because of the discomfort of the stimulation, but it appeared to be unable to integrate its actions to the point of flying from the perch. Such an adjustment to such a situation appeared to require an overall organization which was not forthcoming. Critics of realism find this same lack of explanation of overall organization in the reflex arc concept of human nature. In 1930, Watson denied the

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12. Cited by Wheeler and Perkins, Principles of Mental Development, p. 69.

existence of any integrating factor for the independent reflexes, but earlier in his career he used the highly questionable term "instinct" in the sense of an integrating factor. In attempting to find it, he suggested that one should study the child "and contrast it with animals in order to determine what native systems of integrations belong peculiarly to man."[13] At another point Watson wrote,

> . . . when the infant is put in a situation to which it is not adjusted, it displays its repertoire of instinctive and reflex movements.[14]

But apparently realizing the inconsistency of this vitalistic notion of instinct as compared with the rest of his concepts, Watson writes later,

> But we are now almost at the point of throwing away the word "instinct." Still there are a lot of things we do that we do not have to learn--to perspire, to breathe, to have our heart beat, . . . to show fear response when a loud noise is given.[15]

We notice that Watson does not dispense completely with the idea of instinct. Since he accepts as unlearned and integrated responses such things as fear and self-protection, it must be admitted that he has found it necessary to introduce some kind of deus ex machina operating or controlling the initial mass of reflexes. We also note that these instinctive or unlearned facilities are fixed within the organism and that they are not subject to active intellectual choice. They describe behavior in terms of implanted design, and consequently may be regarded as vitalistic impositions no less than instincts. In

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13. J. B. Watson, Psychology from the Standpoint of a Behaviorist, (Second Ed.), p. 18.
14. Ibid., p. 329.
15. J. B. Watson, Behaviorism, (1930) p. 17.

this connection Watson writes,

> 1. Man is supplied with a large number of directly adaptive life-conserving activities which care for the intake, digestion and distribution of food products and for the elimination of waste and for procreation. ...
>
> 2. Man at birth and at varying periods thereafter is supplied with a series of protective attack and defense mechanisms. ... .
>
> 3. Then follow the occoupational activities (manipulation) consisting mainly of habit - seen in collection, hoarding, building of blocks, hammering, and the use of tools generally, drawing, modeling in clay, etc. In the crude stage of these activities, instinctive factors may be operative, but their presence is hard to demonstrate. ...
>
> 4. Individuality seems in some way to depend upon man's unlearned behavior, not upon the presence of completed pattern types of responses... .
>
> 5. . . . the principal role of all unlearned activity, neglecting the vegetative and procreative, . . . is to initiate the process of learning. [16].

Here, then are some of the reasons why native integrations are introduced. They are employed in order to account for human behavior and for human qualities, and to explain specifically the organization of: 1. life-conserving activities, 2. procreative activities, 3. self-protection, 4. aspects of the manipulative traits, 5. special personality traits and abilities, 6. basic mechanisms which achieve adaptation.

To an absolutist, the explanation of these more or less universal modes of behavior must be found in terms of deterministic agencies. He cannot find a clue to these integrations within the elements, and consequently must assume them to be vitalistically imposed organizations in order to guarantee particular modes of behavior. This much

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16. Watson, Psychology From the Standpoint of a Behaviorist, (Second Ed.) pp. 287-289.

is certain, they are independent of the consequences, and the individual is not free to exercise freedom of choice in terms of the consequences.

Emotions are also considered as innate organizations which have a particular function in determining the positive and negative attitudes of persons. Each stimulus is presumed to set in motion a number of neural impulses. It may set off a particular reflex, or it may set off a series of connections which are called instincts or habits. Along with this direct reaction to stimulus there is another, somewhat less direct but just as highly organized, namely emotion. It is emotion which determines to some extent the nature of the total response to a situation. Watson describes the process as follows:

> The emotionally exciting object releases important internal secretions which, without initiating new (part) reactions, reinforce or inhibit those actually in progress. [17]

Emotions are regarded as controlling organizations which give general direction and continuity to the person. In certain situations a fear reaction is demanded, and in other instances love or rage are necessary. Through operation of his emotional organization, a person behaves in a positive or a negative manner in keeping with what is generally called biological self-defense or self-preservation. Since these feeling-states are teleological and not simple tensions they must be assumed to be imposed upon the organism. Here again the individual is not presumed to act with foresight of consequences. Hence this concept is also deterministic.

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17. Ibid, p. 218.

(2) The Acquistion of New Organizations

We recall that Watson writes that "unlearned activity, neglecting the vegetative and procreative, . . . *is to initiate the process of learning.*"[18] In the last analysis this amounts to the "coordination or chaining together of the loosely knit acts into what we call "learnings" or habits."[19] Watson also says,

> The new or learned element in habit is the tying together or integration of separate movements in such a way as to produce a new unitary activity. And by uniting activity we mean nothing more than the everyday acts of life.[20]

Native patterns of behavior are held to be basic to learning in other respects also. For example, Watson says,

> Furthermore, many of the perfectly normal instincts must be brought under social control before the individual is prepared to mingle with his fellow-men.[21]

Here he implies that learning may be in part the modification of an instinctive act. Thus, for Watson, learning is the integration and modification of native patterns of conduct.

One way in which Watson attempts to integrate or modify native behavior patterns is through emotional direction. We must recall that emotions are considered by Watson to be native behavior patterns, and that they are aroused along with other activities. The emotions that are aroused by a stimulus determine which other responses will be made. Their relationship to learning is discribed by Watson in terms not unlike that of readiness to learn:

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18. Ibid, p. 289.
19. Ibid, p. 4.
20. Ibid, p. 293.
21. Ibid, p. 284

> Every object either by virtue of the original constitution of the individual or through associative connections of one kind or another (conditioned reflex or habit) calls out, in addition to the ordinary overt or delayed response in the striped musculature, a definite and complex group of reflex activity in the erogenous zones. When thus stimulated this area may according to the way in which it has been excited arouse two fundamental kinds of impulses, (1) a group connected with tumescence, rhythmical contraction... . This group, in functioning alone, would lead to positive seeking movements, and ultimately to the unfolding of the instinctive mechanism... . (2) A group connected with detumescence inhibition and relaxation of other muscular tissue and with inhibition of secretions. These impulses gaining the motor centers would, if no inhibitory factors were present, release the movements of avoidance.[22]

This means that an emotional state is aroused by any stimulus, and this emotional state gives direction to the response. And so firmly does Watson believe that it gives direction to response that he writes, ". . . if the object fails to arouse either positive or negative reaction tendencies no habit can be formulated."[23] According to Watson, then, it is by physiological tensions ( emotional behavior) that direction is given to learned responses. Under this state of feeling, habits are formed and learning takes place.

We observe, now, that the coordination of loosely knit acts, and the modification of native organizations, are by means of automatically aroused feeling states. According to Watson, the learning process is automatic and mechanical. The individual is presumed to be passive. Whenever a new stimulation occurs, feeling states and tensions are evoked. Random activity will also take place, and as the result of

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22. Ibid, p. 271.
23. Ibid, p. 314. (In Behaviorism, (1930) p. 166, Watson seems to deny this pleasure-pain concept of learning, but he does not take his denial seriously. He still accepts punishment as a factor which determines learning. Also, see Behaviorism, p. 145.)

some "blind" response, tension will be released and a satisfied feeling state will ensue. This is called the trial and error process. Somewhere in the random responses, a group of movements is successful and the blind activity ceases and tension is released. When the same situation arises at a later time, providing there has been adequate practice and use, the tension-relieving response will be more likely to recur. By such a process certain groups of connections become fixed. These repeated connections become new habits in the following manner:

> (1) In most cases where random activity finally leads to success the successful group of acts is always the last one to appear; hence when the next trial is given the last group active in the preceding test (the successful one) is thus the one most recently exercised, therefore, other things being equal, it will be the one most likely to occur first or at least early in the second trial. (2) In view of the fact that the random acts are infinitely varied the successful act is the only one performed each time the stimulus is presented. ... (3) By reason of the fact that the final group of acts always brings food, water, removes an irritating object, lessens emotional tension, etc., the new state . . . brings heightened metabolism. ... (4) It is possible that when the final group of movements function and the adjustment is completed, the situation as a whole becomes an emotion-producing one; internal glandular secretions are set free which serve as reinforcers. [24]

Watson proposes this mechanical explanation of the organization of reflexes simply by way of speculation. Its importance is not the proposal, but the general pattern of thought which realism necessitates with regard to the learning process. Connections are made mechanically rather than thoughtfully. Habit is developed because it

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24. Watson, Psychology from the Standpoint of the Behaviorist, (Second Ed.), pp. 315-316.

meets certain mechanical requirements rather than because it is particularly helpful to a problem-solving individual. If there is any satisfaction in success it is not because of the success itself, but because of the physiological release of tension, a resulting tonus of the organism, an emotional feeling. Here again the individual is not free to act with foresight of consequences. His conduct is predetermined by stimuli, bonds and tensions.

c. A Summary of the Realistic Conception of Human Nature.

Realism implies specific conceptions with regard to human nature. The crux of these conceptions lies in the assumption of the primacy of the parts. In psychology these parts are not electrons or protons, as they are in physics and chemistry, but they are individual sets of reflexes (neural connections). The parts cannot account for anything apart from themselves, so the realist has to look into the parts themselves to find the meaning of behavior and of human nature. Consequently, despite the functional emphasis of behaviorism, it too becomes structural in its outlook as it seeks to explain all behavior in terms of the absolute elements within the organism. Inherent elements are individual; basically the simple reflexes. Emotions, and instinctive-type responses are the integrators of the elements. The organism acquires new organizations of reflexes by mechanical means also governed by these integrators. From this standpoint the individual is passive to stimuli, the emotions, and the processes of conditioning.

Instincts or purposeful emotions are introduced primarily to safeguard the continuance of human life and human modes of behavior. As such, they represent a vitalistic compromise. Purposive emotions also make possible the formation of new connections, the modification of

native responses, and the organization of reflexes into new series or chains. This process is called habit formation. Habit formation, in turn, is regarded as learning. Important assumptions to this learning process are:

1. Repetition (use) establishes any series of reflexes once brought into operation.
2. No learning can take place without an accompanying state of feeling (positive or negative reaction tendencies).
3. The true meaning of any situation or thing lies in the response it can give. (This implies a static conception of both the individual and the situation. It also implies an individual who is passive and subject to circumstances in his mode of living.)
4. Human nature is determined by inherited patterns and by teleological feeling-states.

J. B. Watson is truly deterministic. His determinism is based mainly on realistic conceptions of human nature. However, Watson does accept a vitalistic equivalent of instincts and in doing so, he is no less deterministic. Thus by implying that the human organism is endowed with individual reaction patterns (reflexes), and dominated by organized purposive modes of conduct (instincts) he takes for granted no reflective "sizing up" of a situation nor a contemplation of consequences. Automatically aroused reflexes, feeling states, and instincts are presumed to govern conduct. Truly, as a behaviorist, Watson is a determinist.

B. Thorndike's Conception of Human Nature.

1. Primacy of the Parts.

Let us now compare Thorndike with Watson. First of all, we must remember Thorndike's statement that in the end, human behavior is probably nothing more nor less than the movements of electrons and protons. Early in Thorndike's Human Nature and the Social Order we read,

> A man is a physical mass and, as such, behaves in accordance with gravitation, electrical attraction and repulsion, and other physical laws. (p. 5)

This is a realistic statement, simple and direct. Man is a mass of matter which responds to matter. In this mass of chemical and physical elements we must find the explanation of human behavior. Thorndike assumes that this mass of matter will operate in accordance with physical laws. He rests his case on the operations of electrons and protons. These are the primary parts in which he finds the explanation of human behavior.

In order to assure activity on the part of these heterogeneous chemical elements, Thorndike assumes some kind of combining force, valence, or affinity. Thus, he crosses the chasm between physical elements to what may be regarded as human elements. In the discussion of Thorndike's realism it was observed that he found the reality of human nature in its parts, the electrons and protons, the genes, and the neural connections. The genes appear to be his bridge from the inorganic to the organic, from chemicals to neural connections. For instance he writes, "Certain combinations of genes are favorable to the production of... moral perverts, grafters..." (p. 449) In another instance he writes of the "humane tendencies in the human genes." (p. 741) Thus, by means of the genes, Thorndike leads us to organic or human elements; neural connections. He writes that "A man is an organization of S-R connections..." (p. 8) Elsewhere he writes, "A man's nature at any given stage would be expressed by a list of R's which he would make to whatever S's could happen to him." (p. 5) In other words, in any analysis of human nature, Thorndike reduces the whole organism into its constituent parts. Undoubtedly his atomistic conception of

human nature which we have just cited above and stated previously reflects his belief in the absolute qualities of the parts. He insists upon finding the meaning of human nature in these parts. If Thorndike wants to know what man is, eventually he must refer to human elements for he holds that they are the essence of human nature and the determiners of conduct.

2. The Organization of the Human Mass.

a. Initial Organization.

Throughout Human Nature and the Social Order there is frequent reference to the genes with respect to the determination of specific elements of human behavior. Several of the representative statements have been cited previously. We note that Thorndike does not simply refer to the genes as carriers of structural characteristics or field of energy traits, but he also describes them as determining specific behavior patterns. The previously cited statement that there are "... certain humane tendencies in the genes...." (p. 741) carries this implication. Elsewhere he writes,

> I venture to prophesy that after crediting to conditioning all other forms of training everything that belongs to them, investigation will show Man's repertory of inherited propensities or dispositions to be not poor, but rich and varied. (p. 295)

Here Thorndike places the propensities and dispositions more or less on the same level as he does conditioned responses. Thus he holds that man inherits not simply the capacity for specific behavior patterns, but patterns themselves. This explains why he can write of gene combinations favorable to the production of grafters and perverts (p. 449) and why he can state that "Some producers produce because their natures impel them to do so... ." (p. 640).

Some one may interrupt at this point to indicate that the propensities and tendencies to respond in certain afore-mentioned patterns are not specific neural connections, but general states of mind or urges. One may well agree that this is possible, for Thorndike does describe states of mind and wants as being gene-determined. However, states of mind and urges or wants, as found in Thorndikian psychology, are basically specific neural patterns having internal responses rather than overt responses. This is verified in part when Thorndike writes that,

> The genes have so made human brains that certain situations not only evoke certain muscular and glandular responses, but also these states of mind. ... By the genes' arrangements these states of mind tend to be evoked by certain experiences and to evoke certain responses. (p. 298)

But we may also be certain that Thorndike does imply that other neural connections are possibly gene determined. In one instance he asks,

> Can we expect the genes to provide connections between a hundred situation-patterns and a hundred more response-patterns? Can we expect them to provide five hundred such? Can we expect them to provide a thousand such? (p. 300)

His own reply is,

> So far as the mere number and variety of the connections is concerned there should be no difficulty. The genes provide tens of thousands of specific details in making sizes and shapes and colors of the parts of man's body, details which we cannot count up in showing how closely alike two twins are. (pp. 300-301)

Here then, we have Thorndike's conception of the genes in the determination of human organization. Specific reflexes, states of mind, urges and wants have in part their origin in the genes. And, to quote Thorndike, "... investigation will show Man's repertory of inherited propensities or dispositions to be not poor, but rich and varied." (p. 295) We observe then, that Thorndike, in agreement with Watson,

assumes that certain neural connections and "purposive" drives are inborn.

For the present it is immaterial that Thorndike's position is an outgrowth of atomism, except in that he assumes the genes to have absolute, fixed, and determining characteristics. Thorndike has maneuvered himself into this deterministic position by his atomistic analysis of human nature. Moreover, by suggesting that inherited propensities and specific reacting patterns may be many, he leaves little for limited human initiative.

Relativists do not deny that heredity plays a part in the determination of individual characteristics. But they tend to stress structural determination rather than behavior-pattern determination. Moreover, while Thorndike, along with other scholars, will agree that an individual is the product of both heredity and environment, he tends to emphasize the part that heredity plays. Relativists hold that the structure of an organism is the product of interaction between hereditary and environmental forces. We shall see that Thorndike does not account for the human organism on this basis. Rather, he delegates to the hereditary agency certain distinct and absolute functions. The environment is presumed by him simply to add to or modify inherited structure and behavior tendencies.

We notice that in contrast to Thorndike, Jennings writes,

> The characteristics of the adult are no more present in the germ cells than are those of an automobile in the metallic ores out of which it is ultimately manufactured. To get the complete, normally-acting organism, the proper materials are essential; but equally essential is it that they should interact

properly with each other and with other things.[25] Jennings describes the organism as growing in an environment, acting upon the environment and reacting to it. In this interaction there is a development that is limited by both the genes and the environment but not one that is accounted for almost entirely by the genes. Most certainly, it can not be said that the genes account for a rich and varied assortment of propensities and reacting patterns. These are the products of an interacting process. We repeat, then, that Thorndike's position is not erroneous because he holds that heredity plays an important part in the development of an organism, but in that he ascribes to the genes such absolute qualities that they may be presumed to determine to a great extent not only the nature of the structure but also ~~dictate~~ specific modes of behavior. In the first place, research findings such as Jennings' will not justify this position. Moreover, the educator who believes that democracy is based on a complete freedom of choice and the weighing of consequences will find this position entirely inadequate. Behavior should be based upon conditions within the organism, conditions surrounding the organism, and upon insights. Thorndike limits much of human behavior to original in-born tendencies and response patterns. That is to say, for Thorndike a man may produce because his nature impels him to do so. In a democratic society, a man should produce because it is a desirable and necessary function both for him and for society.

We have already seen that Thorndike assumes native organization

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25. H. S. Jennings, Prometheus, p. 28.

to be "rich and varied." (p. 295) An examination of these "inherited propensities," reminds one of the organizations outlined by Watson; namely, reflexes, instincts, and emotions. And if we should say that reflexes are simple mechanisms based on native neural connections, Thorndike would agree with us heartily. Moreover, we recall that in Human Nature and the Social Order he writes that the "genes have so made human brains that certain situations not only evoke certain muscular and glandular responses, but also these states of mind." (p. 298) In other words, Thorndike apparently is trying to say that not only are there simple reflexes, but there are certain generalized responses which may be distinguished as "states of mind." These "states of mind" are really nothing more nor less than strong feelings which color the reacting process, and hence may be designated as emotional responses. In the last analysis, Thorndike says both emotions and reflexes, or simple S - R organizations, are native.

Thorndike writes much about "tendencies to respond." Among these tendencies he lists one for mating. He says:

> With the progress of biology and psychology Instinct, a single mystical faculty, was replaced by instincts, each an unlearned tendency to respond, irrespective of experience, to a certain situation or stimulus by a certain act or feeling or thought. These instincts were after the general pattern of the reflexes, but more elaborate, more variable, and more modifiable. (p. 287)

Here Thorndike assumes a general organization which so closely resembles Watson's that only the terms used are different. Thorndike goes on further to say,

> He (man) is born with certain wants and proclivities (called "drives," by many psychologists) and acquires more by growth and experience. These determine in a large measure what he does and what he becomes. A man is an organization of S - R connections operating in the service of a group of such wants, "drives" or

proclivities. (p. 8)

It is largely through such wants or proclivities (instincts) that the human organism is organized to function as a unity.

b. Human Continuity

To assure the ongoing of human mass, Watson introduces instincts and emotions. They are introduced in order to guarantee a continuation of the modes of behavior we designate as human and also for the preservation of human beings. Whether or not Thorndike accepts this position he fails to clarify. But some aspects of his concept bear a very close resemblance to Watson's. We recall that Thorndike writes,

> Some producers produce because their natures impel them to do so, regardless of whether anybody will ever consume the product. (p. 640)

If a person is impelled by nature, either acquired or native, to do certain things, this impelling force must direct blind effort to some end. Some of these forces will undoubtedly be those which seek self-preservation. Thorndike says they are few. He writes,

> . . . the desires and aversions pertaining strictly to keeping alive and propagating would form a very small fraction of it. (p. 112)

But the principle involving one is no different from that involving many. The point is, he accepts an innate vitalistic principle of self-preservation. And the human wants, which he endows with teleological significance, are also described as native. He writes,

> . . . much in the inventory (of wants) is not man-made and not learned in a human environment or in any other, but is due to man's original, unlearned tendencies - is due to the constitution of the genes in the twenty-four pairs of chromosomes which form the start of a human life. (p. 114)

Moreover, Thorndike insists that some of native human tendencies are

unmodifiable. It would appear that our function is to discover them and to make adaptation to them. We read,

> The effort to discover germinal tendencies is an effort to discover factors which are independent of books, churches, . . . because the genes cannot be expected to be adapted to any such. (p. 119)

In other words, man possesses certain basic wants or drives which are inherent, predetermine his conduct and which appear to have for Thorndike a "purposive" or teleological importance.

Aside from a few basic tendencies to react, Thorndike does not accept the common interpretation of instincts and their implications for a continuity of human beings and human behavior. On the surface, it seems that he refuses to make vitalistic compromises as Watson did, but further analysis will disclose that the main difference between them is one of degree and not of kind. In other words, Thorndike does not agree to accept lists describing complex instincts, but rather he suggests listing simple reflexes or responses which are no less teleological. He writes,

> Man's unlearned propensities are in particular often much more or much less specialized than the words would indicate. He has, for example, no general instincts of self-preservation, or constructiveness, or rivalry. The realities in the first are certain tendencies to avoid large missles, etc., by jumping; attacks by dodging; falling by clutching; to suck, bite, chew and swallow; to push away objects that interfere with breathing, etc. (pp. 295-296)

Then he would add to this list of particularized self-preservative reflexes another list of less specialized significance; namely, one of native desires. Here again there is implied a vitalistic predetermination of conduct. For instance we find among the desires mentioned the three following:

1. bright colors and glitter; sunshine; soft, tinkling, and rhythmical sounds; sweet, fruity, and nutty tastes; touching what is soft, smooth and dry.
2. free bodily movement; rapid movement through space.
3. healthy normal action of the digestive, circulatory, excretory, nervous and other physiological systems. (p. 117 ff.)

Thorndike does not state here that we are attracted by certain sounds or colors, et cetera, by virtue of their contrast; nor does he inform us that we desire freedom of movement in order to achieve certain ends. He simply states that we desire these things because we are natively endowed with such desires. In other words, vitalistically implanted or imposed desires are presumed to predetermine conduct.

We are forced to conclude that Thorndike has succeeded in becoming more objective than Watson with regard to native organized activities, but in doing this he has succeeded only in breaking up the elements into finer gradations of the same thing. But for this reason, we must be the more wary. The teleological aspects of Thorndike's vitalism appear more remote. So, with reference to the continuity of the human being, Thorndike minimizes the role of instincts, but he is not willing to leave them or their equivalent out of the picture entirely. In general, Thorndike follows a pattern of thought not unlike Watson's which is both atomistic and vitalistic. Leaving instincts for the moment in order to compare Thorndike's and Watson's attitudes toward emotions, we find Thorndike hesitant in making commitments. We will recall that Watson regards emotions as affective states which result from external stimulation. These states of feeling in turn give general direction to the responses made by the individual, particularly with reference to love, hate, or fear. Their function may be described largely as self-defense.

Thorndike states specifically that there are feeling states, and that they are primarily gene-formed response mechanisms. We read:

> The genes provide man with the capacity to have many of the states of mind and brain which we call internal sensations, emotion, moods, and the like. . . .
>
> The genes have so made human brains that certain situations not only evoke certain muscular and glandular responses, but also these states of mind... . By the gene's arrangements these states tend to be evoked by certain experiences and to evoke certain responses. (p. 298)

According to the Gestalt conception, feeling states, for instance, may arise as the result of achieving a goal or the development of new insights. But Thorndike does not accept this. Instead, he accepts the vitalistic-teleological interpretation of emotions. For him fear may be evoked by a noise. It follows that there must be a defense-mechanism operating automatically; a stimulus rather than insight places an individual on guard. This is the only way a mechanist can account for any of the states of affectivity. But in doing so, he cannot grant the individual to be free to "size up" the situation and to make his own choice.

Thus, as we observe and compare the notions of Watson and Thorndike pertinent to human continuity we must conclude they have much in common, and that they are both committed to a vitalistic predetermination of human conduct. Both attempt to give a realistic interpretation to "purposiveness" but by assuming human purposiveness to be predetermined they must assume it to be imposed and hence <u>deus ex machina</u>. By assuming purposiveness to be predetermined and fixed, they must admit that in one or more areas of human conduct the individual has no freedom of choice. Watson makes no apologies for his determinism. It seems fitting that Thorndike should admit his. Certainly we must

conclude that in so far as freedom of choice is denied the individual, democracy is unattainable.

3. The Acquisition of New Organizations.

Since Thorndike has remained within the bounds of connectionism with regard to human abilities and activities, we should be safe in assuming that to him learning would be a matter of improving bonds already formed and the acquisition of new chains of reflex connections. Let us see if we are right in this assumption.

One of the first assumptions encountered in Thorndike's treatment of learning is what he calls the "associative shift." By this he refers specifically to the practice of connecting". . . desirable emotional and appetitive responses with situations of life. . ." (p. 325) This process can well be illustrated in politics. Let us assume the political orator knows he can achieve a desired response from the voters by making reference to "mother." But he also wants the voters to respond in a similar manner when he refers to the Republican Party; how does he do this? He uses the "associative shift" in this way: He will give the "mother" stimulus to the voters and at the same time attach to it the name of the Republican Party. After a certain length of time wherein numerous repetitions have occurred, he can remove the "mother" stimulus and get the same results by mentioning the name of the Republican Party. According to Thorndike, this new connection has been formed by means of the associative shift.

The associative shift is a device or practice advocated by Thorndike for the purpose of changing inborn connections and any modes of conduct which have been acquired early in life. He further uses this device in tying up old learning with the new learning. It provides the

necessary bridge between old and new connections. Stated simply, it is a process of shifting from formed associations to new ones.

By proposing the associative shift Thorndike assumes the individual to be passive to any situation in question. In the last analysis, the individual has no choice as to which connections will be formed, he does not evaluate a situation in terms of experiences, nor can he plan any action with foresight of consequences. The elements of a situation are presumed to have absolute meaning, specific elements in a situation are presumed to have fixed stimulus-value and can in and of themselves evoke specific responses. Earlier Thorndike wrote that, ". . . if that part of the situation occurs in a new context, that part of the response has a certain tendency to appear. . . ."[26] He still holds this to be true, for we read, "To any situation the same person will always make the same response." (p. 10) To be more specific we read,

> Both common practice and science have been more interested in what responses the elements of situations will evoke than in what total situations will evoke. (p. 9)

Here, then, we see an individual as being passive to elements of a situation. The individual does not evaluate the situation but is subject to the impulses it evokes. The elements of a situation and the psychological bonds associated with them rather than the meaning of a situation will determine what the individual will do.

But how can any element of a situation become associated with any response? Or, how does learning take place? In considering this problem, we must keep in mind that Thorndike's frame of reference appears

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26. E. Thorndike, Educational Psychology, Briefer Course, p. 153.

to be realistic, and that the connection-forming process is in terms of matter, and of physiological processes. Thus, we find expressed by Thorndike the concept of "sheer repetition" as a mode of learning. He writes, for instance,

> If by persuasion or coercion, by hook or by crook, a person is caused to do a good thing, there is much to be gained. Per contra, every error is costly. (p. 958)

Thus, despite Thorndike's tendency to discount the value of "mere frequency of occurrence" (p. 14) he does not regard it as inoperative. He holds that "The occurrence of S-R increases the strength of the connection." (p. 14) Obviously, this position simply assumes that sense impressions and responses become automatically associated regardless of their distinctive meanings to individuals at various times. It means that the person who can be coerced into a repetitive process will become automatic with regard to some form of action regardless of consequences. Most certainly, this is not a picture of a reflective individual who is deemed to be actively reorganizing experience.

Some one may protest to this interpretation of Thorndike by indicating that his use of the concept "belongingness" implies an insightful individual capable of comparing and contrasting experiences. Thorndike does not discuss belongingness in Human Nature and the Social Order, but we may indicate at this point the manner in which this principle is presumed to operate. By repetition two or more elements of a stimulus become associated as though they were a composite. If only part of the composite is produced, a complete response will usually not be evoked and the organism will experience an uneasiness or tension. Then, if the missing part of the composite stimulus is introduced, the total response is evoked and tension is relieved. The point is that certain

elements of situations do not have complete stimulus value, and require that the parts which belong with it be present also. Belongingness is based on a mechanical association, and not necessarily on the basis of a perceived relationship. For instance, because "bread and butter" are often associated together in some person's repetitive experiences, "bread" must be associated with "butter" in order to evoke the response that "bread and butter" evokes. In other words, stimuli that are serially or coincidentally associated are presumed to belong together whether they are dynamically related or not. Of course, the individual is not cognizant of relationships in this situation, but is simply passive to chance associations of stimuli.

Returning to the problem of the acquisition of new psychological bonds, or new organizations of reflexes, we observe that Thorndike is not willing to trust the repetitive process alone to stamp in bonds or connections. He introduces a vitalistic factor in the form of wants and emotions which operates as a rewarding mechanism. Paralleling Watson, Thorndike holds there must be a physiological release of tension, a feeling state which arises when the correct response is given. He elaborates upon this to a much greater extent than did Watson. In speaking about this in connection with the associative shift he writes:

> Theoretically the formula of progress, from abcde to abcdef to abcfg to abfgh to afghi to fghij, might result in attaching any response whatever to any situation whatever, provided only that we arrange affairs so that at every step the response X was more satisfying in its consequences than balking or doing anything else that the person could do. [27]

This means that a physical state of satisfaction or annoyance should

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27. E. Thorndike, Educational Psychology, Briefer Course, p. 151.

follow the correct response. Ideally, of course, the satisfaction should be directly attached to the activity. Thus, for instance, in discussing the changes that take place in neural connections, Thorndike says:

> The changes initiated in human brains are on the whole serviceable in satisfying human wants. Those which are outcomes of impartial scientific observation and inference discovering nature's ways have been specially successful in satisfying human wants. They operate by changing man's own behavior into forms more suitable to obtain satisfaction from the rest of nature... . (p. 397)

He means to imply here that wants are utilized in bringing about change. Thus, a realistic teacher[28] seeks to direct the associative shift in such manner that there will be satisfaction of human wants. The satisfaction of wants brings about a release of physiological tension. This, Thorndike holds is the pleasant effect which we usually call "rewards."

Human wants are very important to the educative process. But any teacher who is familiar with the typical classroom situation realizes how often human wants are ignored because of their inexpediency. Undoubtedly, Thorndike is aware of this. At any rate, if human wants cannot be the satisfiers, how then can he be assured of the ongoing of the educative process? Thorndike makes this specific suggestion:

> . . . a satisfier happening to a man reinforces or strengthens any modifiable mental connection with which it is associated. (p. 102)

The state of feeling occurring at the end of the response strengthens

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28. By now Thorndike has shown himself to be a mechanistic vitalist. Wants imply a teleological blue-print. And the satisfaction of wants may release tension, the satisfying state is often an excited state which cannot be differentiated objectively from a state of annoyance. The feeling state is a mechanical, teleological device.

the S-R bond and makes repetition of the same behavior more likely when the same stimulus is repeated. By applying this principle, Thorndike suggests that ". . . the means of curing an idler is to somehow or other get him to work and reward him therefore." (p. 206) In other words, it is necessary to arrange for some special satisfaction to follow the effort of the idler; but the reward need not be found in the activity itself. All we have to do is, by some hook or crook, get the individual to do the thing we want him to do, and then see to it that he is rewarded. He will then continue doing the thing we want him to do. The connection to be formed is thus exercised and it is also reinforced with a satisfied feeling on the part of the individual in question. In another instance Thorndike suggests almost the same thing:

> . . . by so arranging matters that the immediate consequences of its operation are satisfying to the person, the tendency can, except for the strong contrary forces, be strengthened. So, by unfortunate attachments, horrible perversions may be established... . (p. 957)

The prime requisite for the satisfier is that it follow the activity. The whole process is a blind one of sensitivity and neural connections in which there is no logical need for the satisfier to be intrinsic. The feeling-state is biologically determined and therefore it has no pertinence to purpose. All that is necessary is to have ". . . a satisfier happening to a man... ." (p. 102)

Thorndike writes much concerning an intellectual process in which the reward comes in consequence of an intelligent plan of action; but we must keep in mind that Thorndike's fundamental assumption is based on the assumed ultimate reality of the parts--electrons and protons. And when he seeks to interpret human nature, he does so within the limitations of physiological processes. So, if rewards mean anything

in Thorndikian psychology, they too must keep within these physiological limits. To illustrate, let us look at Thorndike's description of confirming reaction (a satisfying state used to reinforce a reaction tendency).

> The confirming reaction does not result mechanically from every satisfier and does not exert its force indifferently upon whatever connections are occurring. A man may experience a condition of intense satisfaction without discharging any confirming reaction. . . . He is operating in a system where the confirming reaction tends to follow satisfactions of certain special sorts, and tends to attach itself to connections to which it "belongs." (pp. 104-105)

We have in this quotation a fleeting glimpse of an intelligent observer, but only momentarily. The confirming reaction described is physiological, and insight is only incidentally introduced into the picture. Thorndike does not bother to tell us how a confirming reaction might "tend to attach itself to connections" described as belonging.[29] Basic to this tendency of the association of feeling with response is the mechanical requisite of biological proximity. Here we have it stated in Thorndike's own words:

> This confirming reaction has the property of strengthening any modifiable connection upon which it acts. It acts upon any such connection which is sensitive to its influence by reason of having just functioned. The confirming reaction thus on the whole strengthens those tendencies which are in harmony with and give satisfaction to the purposes of man. It does not do this infallibly or by any magical teleology, but as a biological force in the brain. Sometimes, in fact, it spreads or scatters so as to strengthen, not the connection which has produced an effect satisfactory to the then ruling purposes of man, but the preceding or following connections. (pp. 393-394)

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29. The concept of "belongingness" is not stressed in Human Nature and the Social Order. However, this quotation and others leave us no alternative but to accept "belongingness" as dependent on the proximity of the reward response to the overt response.

In a similar vein he writes,

> The satisfier does not necessarily strengthen the connection which produces the satisfier, or which is good for the person, or which the person chooses to have strengthened. It does so much more often than chance would allow, but only by virtue of the fact that it strengthens most the connection to which it belongs most closely as a biological event, which is usually the connection immediately preceding it in the strand of experience of which the satisfier is a part. (p. 105)

This conception of effect does not require an insightful individual who weighs the consequences of his actions. Rather, it presents a highly organized system of connections in which the factor of effect is as much a part of the response as is the overt behavior of the individual.

Probably we can see Thorndike's position more clearly when we understand his "states of mind" conception. Pleasant effects are regarded as satisfying states. To put it a little differently, let us look at this statement:

> Satisfiers may be defined as states of affairs which the person in question in the state of mind and body in question does nothing to avoid or reject... . (p. 101)

Just how this state of mind and body is brought about is not clear, except that it comes in response to a rewarding situation or stimulus. We do observe, however, that these states of mind are evoked by gene-determined neural connections. We recall that Thorndike writes,

> The genes have so made human brains that certain situations not only evoke certain muscular and glandular responses, but also these states of mind. A sudden loud sound not only makes a child tremble and cry but also have this inner fear component. (p. 298)

The genes blue-print emotional responses so that feeling states are evoked as well as overt behavior. This biological state of feeling is the "state of mind" which accompanies any response. If the feeling

state is pleasurable, then the response is automatically strengthened. But just how a feeling state can reinforce or strengthen a tendency to respond is a mystery which Thorndike does not explain. It smacks of vitalism, in which a blind purposivism determines human conduct. This much is certain, the controlling factor is both mechanical and deterministic. This is verified by Thorndike's statement that,

> There is, however, a fundamental tendency for a satisfying status to produce a confirming reaction regardless of any reasonableness or relevance. (p. 105)

If educators accept this position, they must plan an educational program that does not depend on nor demand reflective action on the part of the learner, but follows instead a carefully imposed plan designed to evoke pleasant biological states. In fact, that is exactly what Thorndike suggests,

> By rewarding a tendency (to thought,[30] feeling, or action) in a person at the time that it operates, that is, by so arranging matters that the immediate consequences of its operation are satisfying to the person, the tendency can, except for strong contrary forces, be strengthened. (p. 957)

He fortifies this idea by making conclusions such as this:

> Experiments in which everything is kept identical save the attachment of a satisfier to the situation-response connection at once reveal the satisfier as a powerful force, and the connection as changing notably in strength because of it. (p. 103)

That is, we have a physical state of pleasantness arising at the completion of an activity. The reward is not inherent in the activity, it merely follows or is adjacent to the activity. Reward is presumed

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30. The word "thought" need not disturb us here. We must remember that to Thorndike thought is just a particular kind of response.

to confirm a reaction tendency.[31] Thus, if we propose to change human conduct, we do so by arranging to have desired physiological states accompany specific modes of action. It is suggested that:

> A main factor in the understanding of human behavior is sound knowledge of the confirming reaction, and a main factor in successful human engineering is ingenuity in arranging matters so that confirming reaction works on one's side. (p. 106)

Any modification of behavior, then, takes place by a careful "planting" of rewards. Thorndike recommends this specifically in statements such as this:

> . . . the best means of curing a drunkard is to reward him when he is sober. (p. 206)

In order to build up an acceptable form of human behavior we must take the modes of behavior which are present and reward only those which are desirable.

We find, then, that both Watson and Thorndike agree that the human organism is natively endowed with simple neural connections and certain combinations of serially connected reflexes. They both agree that feeling states facilitate and direct the reorganization of human behavior. And for both of them rewards are not necessarily intrinsic to problem-solving. For them native connections account for much of behavior, and inherited connections or certain feeling states account for modification of the native responses. They agree that feeling states are evoked mechanically and independently of the consequences of behavior. This must mean that the learner is presumed to be passive

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31. Apparently Thorndike does not consider the possibility of subjects following a required plan of action because of the reward, but rather because the reward confirms the plan of action.

from the beginning to the end of the learning situation as it pertains to the native behavior patterns. That is to say, the native responses are thought to be evoked by stimuli. In this operation there is no conscious effort nor opportunity for the individual to set up and evaluate a plan of action. Then, by means of control of stimuli, a teacher, for instance, is presumed capable of integrating and modifying native responses. This control is two-fold, by strengthening of connections through repetition and by evoking of feeling states. And with reference to feeling states the learner is presumed to be passive. He is forced into repetitive activity and is seduced by extrinsic rewards. Pleasant feeling states are artificially aroused and are independent of the consequences of the behavior. Obviously, if this is true, the individual is not required to be conscious of the consequences of his behavior, for rewards entirely unrelated to the activity may strengthen a connection. If democracy implies an active individual who becomes increasingly more independent in his ability to learn, Thorndike offers no adequate conception of learning.[32] Thorndike seems to place great emphasis upon the associative shift in the modification of original and early acquired behavior patterns. However, in describing the acquisition of new neural connections, he appears to be satisfied that the principle of "trial and success" will impress new bonds on the learner. The "trial" aspect is a random activity on the part of the individual. Generally speaking, any behavior which is non-purposive in

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32. The reader will require a positive statement regarding the function of the learner in a learning situation, an adequate conception of rewards, and an appropriate conception of education for a democracy. Such statements are given briefly on p. 78 ff of this dissertation.

its outlook implies such random activity. Any organization which may accrue comes about by chance. But since Thorndike is not willing to credit human organization to chance, he attempts to combine chance with feeling states. Earlier in his career he referred to this principle as "trial and error." Now he has modified this notion somewhat by substituting the term "success" for the older term of "error." However, this does not reflect a change in outlook; it simply reflects greater emphasis upon rewards or evoking pleasant feeling states.

Let us examine the trial aspect of this process. Here is an individual, a passive organism stimulated and under tension. Presumably this individual has no plan of action nor is consciously aware of consequences. He must rely wholly on random neural connections to make whatever adjustments are necessary in order to respond to the stimulus. Without purpose or plan various responses are automatically and blindly evoked to relieve the tension or uneasiness. (If this process were stated in proper Thorndikian fashion, we would say that the tension evokes the numerous types of responses which are adjacent to the conducting nerve). Watson presents a similar picture. He holds that the multiplicity of responses ceases only when the physiological tension has ceased. And should the stimulus arise again, the responses would occur again in varying orders until one would bring about an adjustment. Such a concept of trial and error provides for no conscious effort on the part of the learner.

A related method mentioned by Thorndike as a means of acquiring new organizations or new learnings is that of inducing a correct trial as the first response. By a manipulation of the environment correct patterns of behavior are evoked, repeated and rewarded. One might des-

ignate this as learning by an imposed design. It is recalled that Thorndike writes,

> If by hook or by crook a person can be led to do R as a response to S, he will, in so far forth, be more likely in the future to do R as a response to S. The occurrence S-R increases the strength of the connection. (p. 14)

Here we have the picture of a purposeless, insightless individual, passive to a stimulus which has been manipulated by another person. The stimulus evokes a flow of neural energy which the teacher, parent, or reformer uses to lead the passive individual into making the right response. This is Thorndike's suggestion for scientific efficiency in education. For education it implies drill in the right way of living based upon an absolutistic "right answer" approach to problems. The learner is presumed to be passive to stimuli, unable to decide goals and oblivious to the consequences of his behavior.

We observe then, that Thorndike reinstates drill as an effective method of teaching since,

1. An act having taken place once is likely to occur again.
2. Repetition reinforces the connection.
3. The satisfying state of mind which comes in consequence to a "readiness" tension, a want tension, or in subsiding an uneasiness resulting from stimulation reinforces the connection.

This position does not regard as important such things as: personal motive, personal initiative, and reflection. It assumes that stimuli have independent and fixed meanings and that they can evoke identical responses whenever they occur. This proposition necessitates a static, absolutistic classification of both persons and situations. Moreover, when Thorndike suggests that "by hook or crook" a mode of behavior should be induced, he identifies himself very definitely with an authoritarian teaching policy. He assumes that someone will be able to

decide what is right and will be able to "stack the cards" in order to elicit from others the right responses. And once having obtained a right response, a passive learner will react in this prescribed manner simply because he has done it before. Surely, in a society where an individual is expected to make his own decisions, and in which coercion is not to be tolerated, realism, as described here, has no place.

Thorndike makes much of the fact that one occurrence makes more likely a recurrence, and that continued repetition makes a response certain. We recognize this as his "law of exercise." Years ago he wrote "Exercise strengthens and disuse weakens bonds."[33] Apparently he has not changed his mind with regard to this "law," even though in Human Nature and the Social Order he does state that, "Mere frequency of occurrence is, however, a relatively weak strengthener of connections." (p. 14) Actually, he simply relegates his "law of exercise" to a lesser position than it formerly held but he does not rule it out of the picture.

And when he tells us that repetition is a relatively weak device to stamp in connections, he gives us at the same time a "sure fire" trick which can be applied. He says, "A more important factor is their accompaniments or immediate after-effects." (p. 14) An after-effect is the pleasure-pain principle already mentioned. It implies that a satisfied state following an action is a reinforcer of a bond. And in this regard inherent preference and "readiness" function as predeterminers and rewarders. We read,

> Moreover, the frequent evoking of a response by a situation not only makes that situation likely to evoke it, but it

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33. E. L. Thorndike, Educational Psychology, Vol. 1, p. 12, (1912)

> also associates with that situation an impulse to make the response. Not to make the response involves a certain annoyance. To give way to the impulse, if not positively enjoyable, is at least preferable to restraining it. (p. 209)

That is to say, if an S-R bond is in the process of formation, or has already been formed, it is satisfying to the organism to have a response occur. It is annoying not to have R happen after S is given. Here we have a passive individual responding to a situation as though he were released by the trigger of a gun.

Implied in Thorndike's use of "annoyance" and "preference" is the vitalistic conception of pleasure-pain[34] as causal factor to bond-formation. He shows himself to be unwilling to leave the recurrence of an S-R to chance. Each repetition of a response to a stimulus finds a greater tendency on the part of the individual to respond in that particular manner. This tendency might be described as a tension which is followed by a pleasant feeling-state of release or relaxation upon completion of the "correct" response.

The satisfaction which follows the tension accompanying readiness is not the only feeling effect stressed by Thorndike. He places a great deal of emphasis upon the control exercised by human wants. He says,

> He (man) is born with certain wants and proclivities (called "drives," by many psychologists) and acquires more

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34. Pleasure and pain seem to be biological functions, and the satisfyingness following the release of a tension is used as a reasonable explanation of this from the realists' point of view. But it remains a mystery why satisfaction and pleasure should accompany any blind response to stimulus. Basically, hedonism is teleological. An objective galvonometer does not distinguish between pleasure and pain. Pleasure is often as biologically exciting as pain. But should pleasure be simply the removal of tension, learning might not take place. Often the greatest tensions occur just prior to their release. Under this condition the organism might inhibit the response and prevent its completion.

> by growth and experience. These determine in large measure what he does and what he becomes. A man is an organization of S-R connections operating in the service of a group of such wants, "drives" or proclivities. (p. 8)

Thus, although man's S-R bonds may be important, inborn wants are presumed added selective agencies which determine his conduct. These wants are the deux ex machina of human nature. And, although they appear as less complex than instincts, they are nevertheless selective elements in human conduct and are no less vitalistic.

In speaking about forming new patterns of behavior, as well as about modifying those which are native to the organism, Thorndike says, "The essential characteristic of wants is the behavior they cause." (p. 99) Wants form new organizations in response to a situation. Presumably tension caused by a want will be released only after the want has been satisfied.[35] The satisfying state which accompanies this release of tension somehow confirms the response as being the right one. This state can hardly be distinguished from Watson's feeling states and is just as teleological in its implications or consequences. A non-terminal and recurring want is thought to give direction to an organism by the release experienced when a want-gratifying act is peformed.

In addition to the satisfaction which follows the tension of readiness and the satisfaction which comes when behavior serves to satisfy wants, Thorndike assumes that rewards can be arranged to follow an activity and thereby strengthen it. He applies this principle as follows:

> But theoretically the means of curing an idler is to somehow or other get him to work and reward him therefor. Simi-

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35. ". . . a satisfier happening to a man reinforces or strengthens any modifiable mental connection with which it is associated." (p. 102)

> larly the best means of curing a drunkard is to reward him when he is sober. (p. 206)

What Thorndike implies here is that any behavior pattern can be made habitual by supplementing it with any kind of reward. At first the individual is seduced into an activity "by hook or by crook," then the correct response is rewarded. The reward or pleasant effect is not necessarily intrinsic to the act. Thorndike does not state that the idler will find joy in his work nor in the related consequences of his work. The only thing that is necessary is to see to it that the act predetermined as correct is followed by some kind of reward. We have already cited Thorndike's statement that,

> There is, however, a fundamental tendency for a satisfying status to produce a confirming reaction regardless of any reasonableness or relevance. (p. 105)

There are, then, two requisites for confirmation through rewards: namely, (1) sufficient potency or strength to cross the threshold of sensitivity, and (2) biological coincidence. If "The potency of a confirming reaction may bear little relation to the intensity of the satisfier," (p. 16) and if it need not be reasonable nor relevant (p. 105), any kind of reward will do. The reward will tend to reinforce all connections operating at that particular time, but particularly the one immediately connected in time and space. We recall that Thorndike writes,

> The satisfier does not necessarily strengthen the connection which produces the satisfier, or which is good for the person, or which the person chooses to have strengthened. It does so much more often than chance would allow, but only by virtue of the fact that it strengthens most the connection to which it belongs most closely as a biological event, which is usually the connection immediately preceding it in the strand of experience of which the satisfier is a part. (p. 105)

Here it is, then, that we observe Thorndike in the throes of a conflict

between realism and vitalism. He persists in his mechanistic explanations of pain and pleasure. He is a vitalist to the extent that he presumes biological wants and drives to be imposed upon the organism. But we must bear in mind that such vitalism is deterministic. Hence, be he atomist or vitalist he considers the individual passive in a learning situation. He readily states:

> By sufficient skill any response of which a person is capable can conceivably be attached to any stimulus to which he is sensitive. (pp. 19-20)

Truly, this conception of learning and motivation is no less deterministic than is Watson's and hence is no more adequate for education in a democracy.

By way of contrast, we have already noted that because democracy is a planning society, individuals must be capable of participating in the planning. That is, individuals must participate in reforming society, and by this very token they cannot be automatons conforming to stimuli. Bayles points out that ". . . the democratic conception is based upon the assumption of competence on the part of all... ."[36] and follows with the statement:

> . . . that education in a democracy must be designed to stimulate and assist each pupil progressively to develop a more competent knowledge of and ability to cope with his world, and simultaneously to develop an augmented ability to learn by himself - to think reflectively.[37]

Moreover, a teacher or a parent can not authoritatively plan for the learner what neural connections he will be required to have in the future. Hence, the teacher assists the individual in becoming reflec-

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36. Bayles, "The Relativity Principle as Applied to Teaching," University of Kansas Bulletin of Education, Vol. IV, No. 4, p. 5.
37. Bayles, op cit, p. 5.

tive, assuming that by placing faith in the reflective method the individual will be capable of taking care of any type of situation which may arise.

If the individual is to be capable of independent thinking and learning, the educational process must provide him with opportunity for development in this direction. Certainly, the S-R bond concept does not provide for it because someone else makes the decisions for the learner. The "right-answer" technique in which ". . . every error is costly," (p. 958) implies that only one answer, the teacher's, is right and it must be so impressed upon the nervous system.

Actually, the data suggest that learning does not take place as described by Thorndike, but rather in a manner quite in keeping with democracy.[38] It is not necessary to seduce or "humbug" the learner into a particular mode of learning conduct. Wheeler and Perkins point out that "No pupil will learn how to study without the <u>will to learn</u> and without a definite goal."[39] This means that the learning situation in and of itself must present a problem to the learner. As the learner evaluates the problem-situation, he sets up a goal which he wishes to achieve, one which he believes will resolve the difficulty. Wheeler and Perkins further indicate that the goal <u>must</u> be the learner's. They write,

> The goal is definite, in this case, for it is <u>his own</u>. When the imposed goal is the abstract one of the adult, the child will not grasp it; instead, he sets up goals

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38. Ross L. Finney, in <u>A Sociological Philosophy of Education</u>, p. 365, states that, "There is a sense in which motivation is effective just in the degree in which the teacher succeeds in humbugging the child."
39. Wheeler and Perkins, <u>Principles of Mental Development</u>, p. 403.

> of his own, and if he cannot find them in the subject matter, which is usually the case, he will find them in daydreaming, getting by, or cheating the teacher.[40]

We see, then, that in every situation the learner does select a goal independently of teacher-planned activities and goals. But if the teacher is busy with a drill process or with matters that present no problem to the learner there is an inexcusable waste of effort. In the mean time, the learner loses the assistance a teacher should give him in evaluating his problem, in planning an attack upon it, in observing and gathering data, in considering alternate solutions, and in making independent decisions. This is the assistance a learner requires if he is to become competent in a democracy. It is not the assistance he receives if he is drilled into modes of conduct already decided upon as correct, and if he is seduced by rewards which may not necessarily be relevant to the activities in which he is engaged.

And at this point we note that as the teacher raises problems that are a matter of concern to the learner, it will be found that the problems in and of themselves not only furnish the goals, but also the incentives. That is, the resolution of a problem and the insights that accrue are the rewards for persistence to follow through until the problem is solved. Special inducements by way of extrinsic rewards become superfluous since the problem and its solution furnish both goal and reward. Special inducements by way of extrinsic rewards are not only undemocratic, but they are also psychologically superfluous.

A brief comparison of the relativistic concept of problem-raising

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40. Ibid, p. 404.

and problem-solving with the realistic one must lead one to make the following observations:

1. The problem-raising and problem-solving approach is more in keeping with democracy than the realistic.
2. The relativistic concept of goal selection and development of insights is more in keeping with recent experimental data.[41]
3. The insights accrued and the solutions found are rewards in and of themselves and do not necessitate allowing for the use of unsound and undemocratic inducements.

C. Summary of Thorndike's Interpretation of Human Nature.

Despite Thorndike's use of the phrase, "meaningful situations," (p. 160) he makes no adequate provisions for it in his conception of motivation. The three suggestions he makes most emphatically provide no place for a goal-seeking, problem-solving individual functioning in a democracy. Thorndike's outlook is chiefly absolutistic with regard to native human nature (gene determined), the meanings of situations (stimuli and rewards), and acquired human nature (wants and neural connections). Three recommendations he makes epitomize this position. They are,

1. "Better genes." (p. 957) The genes have the responsibility of passing on native wants and connections as well as passing on the kind of material out of which desirable connections can be made.

2. "Better training by rewards." (p. 957) By accompanying a desirable response immediately with a suitable reward (pp. 14, 17, 206, 957) Thorndike assumes that improvement will take place.

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41. Extensive bibliographies and a more adequate dicussion of this problem will be found in such texts as:
B. H. Bode, How We Learn.
H. S. Jennings, The Biological Basis of Human Behavior.
W. Koehler, The Mentality of Apes.
Kurt Koffka, The Growth of the Mind.
K. S. Lashley, Brain Mechanisms and Intelligence.
Wheeler and Perkins, Principles of Mental Development.

3. "better training by sheer repetition." (p. 957) He suggests that euthenics follow the mechanistic principle of repetition.

All in all, we see that Thorndike does not veer far from the realistic pattern of thought as exemplified by Watson. He endows human elements with absolute qualities and thus accounts for human nature on the basis of genes, bonds, and wants. The genes are the chief determiners of neural connections and wants. The integrators of human atoms are for Thorndike: feeling states, pleasure-pain, instincts, wants, and drives. These terms are used to describe biological processes, but because they imply predetermination of behavior they suggest a vitalistic imposition of a deus ex machina. And since the elements of situations are presumed by him to have independent and fixed meanings, they consequently have fixed stimulus value.

Human nature, then, consists of neural connections and native wants which together with objective stimuli account for behavior. This may be regarded as objective or realistic determinism in which organization of S-R bonds is loosely accounted for by endowing the human mass with vitalistic governors known variously as human wants, desires, emotions, drives, urges, etc. The genes control the development of all native organizations including simple reflexes, basic instincts and emotions. The individual is passive matter which is acted upon by stimuli. From this standpoint the individual is not consciously active in problem-solving or goal-directed activity. The situations he confronts are endowed with absolute stimulus values and his own nature is endowed with personally uncontrollable responses. The responses he acquires are those cultivated through chance and arranged stimuli and rewards. Teachers and parents are expected to arrange stimuli and rewards. After

sufficient repetition of desirable responses, encouraged by as many rewards as possible, he is regarded as educated, for by this time he is a system of many responses to many situations.

As it now stands, the practices Thorndike advocates do not permit volitional problem-solving activity on the part of the learner. How, then, can Thorndikianism or any other similar form of absolutism be acceptable in a democratic educational set-up?

In a democracy it is imperative that an individual should be and should constantly develop as an independent thinker, capable of choosing his mode of behavior in terms of immediate and future consequences to himself and to his group. It is therefore highly questionable whether the deterministic realism of Thorndike's philosophy should be accorded a place in the schools of this or any other democracy. A passive learner cannot weigh the consequences of his actions, no matter how great is the immediate satisfaction of his behavior. It is impossible for an individual to develop insightful, long-range goals by means of immediate physical satisfaction. In a democracy this insightful, long-range planning is imperative to maintain progressive refinement on the part of the individual and his group. Furthermore, progressive refinement cannot result from making the best response to carefully selected external or internal stimuli simply because the physical reward is immediate and pleasant. Progressive refinement comes only when each member of the group participates dynamically, intelligently, and interactively in the manner and to the extent to which he is best able to contribute to the over-all goals of the group.

# CHAPTER IV

## THE NATURE OF SOCIETY

Thus far in this study of the democratic implications of Thorndikian realism, we have been forced to conclude that Thorndike is absolutistic in his treatment of reality and human nature. We observe that he assumes that individuals are passive to inherent wants and native or stamped-in neural connections. For this reason we describe Thorndikianism as deterministic and as inconsistent with democracy. However, since Human Nature and the Social Order is not primarily a treatise on absolutes and determinism, our conclusions have been drawn largely by inference. Now as we observe just what kind of society Thorndike proposes to set up, we shall find his statements to be much more direct. We shall be able to observe if the provisions he proposes for the individual and for society are essentially democratic or not. And if his ideal is a democratic society, we should observe what he does about reconciling his absolutism and determinism, to which he is committed, with democracy. But before we proceed, let us review briefly some of the most pertinent aspects of democracy.

It will be recalled that the democratic society may be described as ". . . a form of social organization which provides equality of opportunity for participation in a growing area of interests mutually shared."[1] If we accept this statement as our criterion for society and social progress, it means we must accept certain related positions. For instance,

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1. E. E. Bayles, "The Relativity Principle as Applied to Teaching," University of Kansas Bulletin of Education, Vol. IV, No. 4, p.5.

Bayles points out that ". . . the democratic conception is based upon the assumption of competency on the part of all."[2] That is to say, each member of a democratic society must be assumed to be competent to accept a responsibility in deciding upon the nature of the institutions and practices which affect him. In this respect, faith is placed in human intelligence. Moreover, individuals must be competent to know the consequences of their behavior; they cannot be regarded as passive to circumstances, drives, innate behavior patterns, nor imposed policies. Because individuals are assumed to be competent, they must be free to make their own decisions.

Democracy is founded on the principle that no one is qualified to decide for others what they should do. This is grounded in the belief that no person or persons have special access to acceptable goals for society. Moreover, as individuals become more competent, and as circumstances change, the policies which the individual helps formulate will change. Consequently, society must be a resolving, planning body in which its members actively participate in formulating policies under changing circumstances and expanding insights. There can be no imposition of fixed ends upon this kind of society. It is a society in which the problems common to all serve as a basis for mutual sharing of interests and increased understanding. On the one hand the mutual sharing of interests and experiences is a means whereby the members of a democracy become more competent and understanding of each other, and on the other hand it is the means by which society will progress.

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2. Ibid, p. 5.

If we are to evaluate Thorndike's conception of society to ascertain its compatibility with democracy, we may use these factors as a yardstick or rule. The following are specific criteria with which we may put Thorndike to the test:

A. Does Thorndike assume that the members of a society are competent to participate in social planning? Related to this question are others: such as, (1) Are individuals free to act? (2) Is human nature trustworthy?

B. Does Thorndike provide for a planning or a planned society? That is, does Thorndike hold that society is committed to specific ends or absolutes which are predetermined and necessitate specific modes of conduct and an adoption of particular "right answers" in order to achieve them?

A. Are the Members of Society Competent?

1. Are Individuals Free to Act?

Earlier in this dissertation it was pointed out that to isolate a part and to endow it with inherent qualities assumes an inherent absolute. Such practice implies that the universe and any organ within it is made up of particles, which particles in and of themselves have fixed characteristics that determine the nature and conduct of the whole.

Also, it has already been pointed out that Thorndike endowed the individual with certain properties which determine the nature of his behavior. Such a conception of human nature implies that the individual is passive. That is, neural connections or inherent drives, rather than a reflective consideration of consequences, determine what the individual will do. Thorndike's position is well summarized in the following statement:

> He (man) is born with certain wants and proclivities (called "drives" by many psychologists) and acquires more by growth and experience. These determine in a large measure what he does and what he becomes. A man is an organization of S-R connections operating in the service of a group of wants,

"drives" or proclivities. (p. 8.)

Such specifications place within man the determining factors of his nature. That some wants and neural patterns are learned, changes the picture very little, for the genes are presumed to determine to a large extent what he shall learn.

Moreover, Thorndike assumes that individuals are endowed with patterns of conduct which may be regarded as static class patterns. He writes, for instance, "There are few men in whom mastery is so strong that if they do not rule enough at home, they will go far to get rule. . . ." (p. 804) Elsewhere he writes, "Some producers produce because their natures impel them to do so... ." (p. 640) These and similar statements imply that individuals can be classified on the basis of innate characteristics. An individual, then, follows innate patterns without regard for the situation in which he finds himself. Education in such an order provides either for the greater unfoldment of these patterns, a modification of these patterns, or simply greater adaptation to them. Dewey writes of this approach as follows:

> The real difficulty is that the individual is regarded as something given, something already there. Consequently, he can only be something to be catered to, something whose pleasures are to be magnified and possessions multiplied. When the individual is taken as something given already, anything that can be done to him or for him can only be by way of external impressions and belongings: sensations of pleasure and pain, comforts and securities. [3.]

We have also noted that Thorndike suggests that human nature can be modified in part by two devices: repetition and rewards. As for repetition, another person coerces the learner into a specific pattern

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3. John Dewey, Reconstruction of Philosophy, pp. 193-194.

of conduct "by hook or by crook." (p. 14) And then by the use of rewards repetition of that behavior pattern is evoked until it is firmly implanted in the learner. We have in this picture someone who manipulates the situation and the learner by clever use of subterfuge, coercion, and rewards. The learner himself is not free to act with conscious reflection upon his behavior. He is passive to manipulated stimuli.

We must conclude, then, that with reference to innate behavior patterns and drives, and also with reference to a manipulated environment, the individual is not free to act intelligently. He is presumed to be passive. And, as we have already noted, if democracy requires a citizenry capable of reflective action and freedom of choice, Thorndikianism fails to provide us with such individuals.

2. Is Human Nature Competent?

John Calvin, who took his interpretation of human nature from a strict translation of the Bible, felt that all men are perverse. Rousseau[4] held that coming from the hands of God all things are perfect, but that in the hands of man all things become perverted. He trusted only original nature, and he feared the worst once an individual had been in contact with society. Hobbes[5] held that human nature in competition is mean and petty. And under circumstances of doubt, a government is not only an aid to the individual, but also a restrictive agency for any untoward activity in that it assumes control over the individual. The notions of Calvin, Rousseau, and Hobbes

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4. Jean Jacques Rousseau, Emile.
5. Thomas Hobbes, Leviathan.

are characteristic of various positions that fail to place their faith in the competence of the individual. This faith is a necessity in a democracy. Thorndike, too, makes numerous revealing statements that have a bearing on this point. The following are a few that represent his concept of human competency:

> Deep down in their nature, most men are robbers. (p. 582)
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> And not one man in a hundred is honest with himself about himself. (p. 581)
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> Manual labor undirected by science would have hardly built huts to keep out the weather, and would today make plaything out of the factories and bonfires out of the schools. (p. 580)

Here, then, we have an inkling of Thorndike's conception of human nature, and as such it is not particularly flattering. Most men are robbers and dishonest, the mass of laborers is not to be trusted, and man in both original and acquired nature, has undesirable wants or tendencies. Certainly this kind of human being is not in a position to know what is good for him nor what is good for the society in which he lives.

But, by way of contrast, we must observe what Thorndike suggests concerning some people who are by virtue of their very natures to be trusted. Thus he writes,

> What able and good men want is much more likely to be better for their whole community or nation or race or world as a whole than what stupid and bad men want. (p. 369)

In another instance he informs us,

> . . . it would be desirable to tolerate much from persons of great ability. As a matter of fact, the errors and follies of such persons are relatively few. More than nine out of ten of them today are much above average in common sense, decency and caution, and command the respect of intelligent persons who know them. (p. 875)

We have then, according to Thorndike, two groups: the one which is not to be trusted and the other which is most trustworthy.[6] And when we recall that ". . . most men are robbers," (p. 582) and that "manual labor. . . . would today make playthings out of the factories and bonfires out of the schools," (p. 580) we must conclude that the good, able, and trustworthy group must be in the minority. This is more or less verified by Thorndike's statement that,

> The most valuable consequence of freedom of thought for people in general is the product produced by the top tenth of one percent of thinkers. (p. 381)

Pertaining to values, Thorndike informs us,

> Science would begin with the facts and opinions of able engineers, city managers and business men, of able penologists, educators and social workers, of able biologists and students of public health legislation. (p. 351)

In this instance, while the number of people consulted may be greater than the "top tenth of one percent," it would still include only the minority. In general, then, though Thorndike is a little vague about who should be most trusted, the implication is that a few experts are to be trusted most, and then in a descending order of ability, others

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6. Thorndike places a remarkable amount of faith in the native wants and neural connections of the so-called "able." For instance, he writes, ". . . it would be desirable to tolerate much from persons of great ability. As a matter of fact, the errors and follies of such persons are relatively few." (p. 875) In another instance he writes, "The world's greatest folly has been its treatment of those who are most superior to it in intellect, originality, sensitiveness and humaneness. Its most prudent investment is to find them out early, and give them whatever they need to do their perfect work. One good clue to what they need is what they desire." (p. 370) This last statement implies not only that we should trust them but that we can use their wants as criteria of what is acceptable. This tolerance of the able may have deleterious effect not only on the less able, but upon those whom he would trust, for such a policy simply makes for less socialization on the part of the able.

should be trusted less and less, until we come to the masses of toilers or non-specialists who apparently should have little or no voice in what should be done in society.

Of course, Thorndike does not pretend to have concluded just which types of persons are the best and most able, but we catch glimpses of his suppositions at various points of his treatment of Human Nature and the Social Order. For instance, he writes that "Goodness and intelligence are positively correlated... ." (p. 369) This would imply that a measure of intelligence should serve as an index to a man's goodness. Elsewhere Thorndike writes that,

> Of the great fortunes amassed in the United States, few if any have been founded upon deception and oppression of factory workers. (p. 881)

It must be that the possession of wealth is also an index to goodness.

And even though Thorndike does not pretend to make a conclusive list of what the "good and able" qualities of our natural leaders may be; yet at various points in his treatise he commits himself. The following is a brief enumeration of representative statements in this regard:

a. The intelligent are probably most good.

> Goodness and intelligence are positively correlated. (p. 369)

b. Possession of wealth may reflect goodness.

> Of the great fortunes amassed in the United States, few if any have been founded on deception and oppression of factory workers. (p. 881)

c. Inventors are probably good.

> Men of ability to make such discoveries almost never hide them. They are usually men of much good will toward the world, they also want the satisfaction of seeing their ideas bear fruit, and of approval and power. (p. 573)

d. Public-spirited business men are generally good.

> They (public - spirited business men) expect in business as well as in their private lives to do more good than the law requires and less harm than the law forbids. (pp. 717-718)

Somehow, one gets the impression that Thorndike assumes that possession of wealth, knowledge, creative ability, management ability, or a position of responsibility is evidence of goodness.[7] This interpretation is in keeping with a series of his publications[8] on the goodness of community life wherein he places emphasis on community expenditures and income as reflecting the goodness of life. If we are to accept his conclusion it seems we must evaluate the opinions of men primarily in terms of their material accomplishments. It means that the social order will be constructed about the wants of the so-called good men, for "What able and good men want is much more likely to be better for their community... ." (p. 369) It means that a small per-cent of the population, the able, will be regarded as the chief determiners of the social order. This interpretation of Thorndike is further verified in the following statement:

> The God of science is revealed in reality, and science rebels against counting the votes of imbeciles and ignoramuses, who do not know what is for their own good, much less what is for the good of others... .

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7. The fact that Thorndike uses the term "good" so frequently without an adequate definition of it gives the impression that for him good is an absolute which requires no definition. The impression can not be too much amiss when we notice that people on the upper end of the scale in material and intellectual achievement are regarded by him as being embued with goodness. There seems to be an element of perfectionism reflected in which Thorndike assumes that the more nearly one reaches the peak of ability in any field, the more likely he is to be good.
8. Thorndike, Your City, American Cities and States, et cetera.

> Science will be democratic not in form but in spirit by choosing men as intelligent, wise, and impartial as may be and trusting them to decide as best they can what the "true" values are. (p. 351)

But at this point some one may well pose the question," Does Thorndike not plan for the future competence of individuals?" That is to say, even though he faces the reality of current inequalities in ability, doesn't he propose a benevolent dictatorship for them only until such time as the majority becomes competent? We should probably have to reply in the affirmative to this question. But in so doing we must point out again that in all his proposals Thorndike treats the individual as passive. This is in itself a violation of the principle of personal development, and consequently we cannot expect any great improvement in individual competency. Bayles suggests that,

> Yet, if a pupil is to be trained to think for himself, a seeming necessity in democratic education, his conclusions will have to be those which grow out of this thinking and cannot be forced into pre-ordained molds. [9]

But Thorndike seems to hold that competency can be increased by proper impositions. We recall that the bond - formation concept of education assumes that this is possible. And in a similar vein he writes of the British rule of India, pointing out that despite its faults, it has ". . . in general done much better for the inhabitants of India than they would have done for themselves." (p. 534)

Probably our most significant clue to Thorndike's position with regard to developing more competent individuals is to be found in his statements bearing on the relative merits of education and selective breeding. For instance, he writes that ". . . eugenics is sure but

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9. E. E. Bayles, op cit, p. 9.

slow, whereas education is rapid but extremely variable and insecure." (p. 471) In connection with the development of leadership, Thorndike writes, ". . . the general drift of the facts of biology and psychology is toward attaching more importance to native ability and less to training, in both private and public administration." (p. 789) We observe that Thorndike would improve competency of future generations rather than the present, primarily by selective breeding. Here again we do not have a picture of individuals vigorously attacking problems, and by so doing becoming more skilled. Rather, we have a picture of individuals as victims of manipulated biological forces.

We have another clue bearing on the problem of competency in connection with the distribution and utilization of truth. Thorndike informs us that ". . . it is better to add to the truth than distribute it to more persons... ." (p. 453) Whereas, one isolated sentence of this nature may not be sufficient evidence to support a contention, yet we know that it is consistent with his proposed authoritarian teaching procedures and likewise in keeping with his conceptions of competency of those especially well endowed with wisdom or ability. That is, these commitments are more or less consistent with the position that adding to truth is acceptable and adequate, since those who have access to truth will be able to decide what is best for the less able. Another statement which is not particularly clear but yet is more or less consistent with this position is the following:

> The social sciences are still weak and insecure; the doctors often disagree. Some can be found to support fantastic schemes. But it is surely better on the average to take their medicine than that of ignoramuses. (p. 958)

Here again we find exemplified the position that all of society need not

necessarily participate in the processes of problem solving. For some, probably the majority, the mode of conduct should be, "trust the experts." (p. 524)

We find implied in these statements and in the general tone of Thorndike's text the supposition that competency is not necessarily dependent upon a sharing of experiences. A relativist would hold that democracy is the best known social device for the mutual sharing of interests and experiences and that it is a form of social organization assuring greater competency of all its members. But for Thorndike, society need not share but rather store its experiences as it does its money, and dispense it only to those who are in a position to use it to best advantage.

We must conclude, then, that both with regard to the assumption of competency and the assurance of future competency, Thorndike makes no adequate provisions for the masses. He assumes that some, possibly the majority, are not competent. Moreover, his devices for the improvement of society are not designed to provide for greater adequacy, nor can they ever do so in the light of their basic assumptions regarding human nature.

B. Is the Thorndikian Ideal a Planned or a Planning Society?

1. Are the Ends of Society Fixed and is the Function of Society Found in the Achievement of These Fixed Ends?

The question pertaining to the fixity of social aims should be divided into two parts: (1) Are the ends of society fixed? (2) Are the ends of society fixable? If Thorndike has at present no fixed ends for his social order, is it possible that he looks forward to the time when ultimates can be ascertained? In either event he is absolutistic, but

in the one case his ends are settled and in the other the guiding principles for discovering the ends are fixed.

One approach to the problem of fixity of ends is that of examining values. Some items in a society may appear to have intrinsic value, and thus become fixed. Others, though relative to something else, may be fixed because the ends to which they are relative are fixed. Thus, an absolutist may propound a relativity of values without compromising his position. For example, Hitler, who speaks of the worth of the individual, does so because the individual has worth relative to the state.

The point at issue here is, what does fixity imply with regard to democratic citizenship and to democratic objectives of education? The problem is raised in another connection by Bayles, who, in evaluating the frame of reference set up by the Social Studies Commission of the American Historical Association writes:

> We need to develop ~~all~~ an allegiance on the part of the students for an effectual method of arriving at and continually remaking life patterns rather than for particular patterns fixed in advance. [10]

The problem ultimately resolves itself into two major questions; namely, "Is it possible for persons to discover once and for all a right way to live?" and "Does development of the individual take place by his acceptance of the right way?" Bode answers the first question as follows:

> When some one value or set of values is arbitrarily selected as final and absolute, we have the principle of dictatorship. The alternative is a policy for the continuous extension of common interests, which does

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10. Ernest E. Bayles, "Obligation of Teaching in a Democracy," Journal of Educational Administration and Supervision, XXV, 4, p. 252.

> not give preferred status to any specific value or prescribe what people are to believe.[11]

Given some values which can be fixed and abstracted from their context, we have absolutes which imply a dictatorship of some kind. If nothing else, we have a dictatorship of science or philosophy.

With regard to the second question, Dewey states,

> The strongest point to be made in behalf of even such rudimentary political form as democracy which has already obtained popular voting, majority rule and so on, is that to some extent they involve consultation and discussion which uncover social needs and troubles. . . . De Tocqueville wrote it down almost a century ago in his survey of the prospects of democracy in the United States. Accusing a democracy of a tendency to prefer mediocrity in its elected rulers, and admitting its exposure to gusts of passion and its openness to folly, he pointed out in effect that popular government is educative as other modes of government are not. It forces a recognition that there are common interests. . . ; and the need it enforces for discussion and publicity brings about some clarification of what they are.[12]

The outcome of an arrangement of this kind may not be perfect, but from the standpoint of the development of the individuals participating in discussion and problem-solving, the results are invaluable. To this Bode would add:

> . . . the supreme test of progress lies in the development of the individual capacity and not in conformity to any authoritarian standard.[13]

Briefly, then, in a democracy we should expect individuals to set up "operational concepts" (hypotheses) upon which to plan a course of action, because there is for all courses of action and all events no singularly "right" way. In the planning of action and in the evalu-

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11. Boyd H. Bode, Progressive Education at the Cross Roads, pp. 119-120.
12. John Dewey, The Public and its Problems, p. 206.
13. Boyd H. Bode, Ends and Means, p. 12.

ation of results individuals become more competent. Stated differently, the fluidity of a field precludes the employment of any proposal which smacks of fixity and ultimacy. And should some one conception be so universal, and its appearance so ultimate, that it could be abstracted, its adoption ipso facto would lead to passivity and staticity on the part of the individual. This situation would be dangerous both to individuals and society. Democracy requires the wholesome and intellectually honest practice of willingness to consider alternate proposals.

If a society has its plans pretty well fixed in advance, then there are few questions to be settled and its members will fall into lethargy. But when social scientists insist that they have only partial access to truth, and therefore it is impossible for them to state in detail what should be planned for the future we may find lurking another danger. Because such scholars speak of change, or of much that is not known, they are sometimes regarded as pragmatic. Little do most persons realize that hidden behind their mask of uncertainty are fixed principles which necessitate an authoritarian outlook on life. Bode describes some of the Progressive Education people as absolutistic because they adhere to certain fixed principles which they believe implied in democracy. Bayles[14] found that the Social Studies Commission presented a relatively fixed frame of reference. Such groups or persons speak of change, but they tend to accept certain ultimate principles as fixed. To them change is simply the bending of effort and means of achieving

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14. E. E. Bayles, "Obligations of Teaching in a Democracy," Journal of Educational Administration and Supervision, XXV, 4, p. 252.

certain fixed ends or standards. Consequently, as we view Thorndike we must be alert to any efforts on his part to fix practices and principles. We shall analyze his writings for fixing principles first. Then, as further verification, we shall look to see if he considers any specific modes of conduct as already fixed.

a. Guiding Principles (Absolutes)

(1) Human Nature

The second chapter of this analysis of realism indicates that Thorndike is an absolutist. It was found, for instance, that his conception of human nature is absolutistic. Yet, in our analysis of Thorndike's faith in human nature, it was concluded that all human nature is not competent and trustworthy. Consequently, if human nature is an absolute, we must limit this absolute to what Thorndike regards as "good and able" human nature. Yet, be human nature adequate or inadequate, he states that any trustee or board for human welfare will limit its proposals to what is practical in terms of known original human nature. He writes,

> He will try to avoid putting in his bill of specifications items so alien to the original nature of man that they can be realized only at a tremendous cost of external coercion or seduction. (p. 404) [15].

But in another instance Thorndike writes that,

> Any man whose life and work satisfies some decent human wants and does violence to none may continue to mind his own business and leisure with a good conscience. He is probably a benefactor, perhaps more so than he would be

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15. We observe here that Thorndike does not object to ~~the~~ coercion, but to coercion at a tremendous cost. This indicates that there is a hierarchy of specifications to which a trustee must be committed. It is possible the elusive absolute "good" is the final source of appeal for the trustee.

if he tried to serve all good causes. (p. 540)

That is, while on the one hand Thorndike does limit his bill of specifications to what is within reach of human nature; on the other hand, he regards anything which is related to "good and able" human nature or "decent human wants" as fit model for what individuals should do. "Good" human nature and "decent human wants" become the measuring rod for individuals, society, and social progress.

Thorndike applies the measuring rod of human nature to many practices now current or proposed. Foot-noting a comment he makes on manager-managed relations, he writes, "That relation is not in and of itself alien to human nature... ." (p. 424) Later he pleads for continuance of freedom of enterprise on the grounds that, ". . . present knowledge of human nature is overwhelmingly in favor of freedom... ." (p. 702) But since Thorndike regards the wants of the poor and less able to be distorted we observe that this measuring rod is essentially the practice of ". . . maximizing of the good life for good people." (p. 474)

Essentially, he designates the unadulterated, good human being as the basis upon which society must be constructed. In his introduction to Human Nature and the Social Order, he express his concept as follows:

> Much of the work of improving the world consists in using the abilities of men to gratify their good wants; and many of the problems which economics, government, law, business, philanthropy, and education refer to psychology concern the nature, causation, and modification of either abilities or wants. (p. 4)

In applying this principle, Thorndike outlines several important steps which should be taken with regard to good and able human nature. Some

of these are listed below:

a. Tolerate the wants of the able for they must be good.

> . . . it would be desirable to tolerate much from persons of great ability. (p. 875)
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> Some able thinkers should be trusted in school and out... . The most valuable consequence of freedom of thought for people in general is the product produced by the top tenth of one percent. (p. 381)

b. Plan a good life for the good and the able.

> The main principle of allotment (of funds) would be the maximizing of the good life for good people. (p. 474)
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> One test (of an economic system) is to ask "What sort of person is rewarded by the system in question?" (p. 721)
>
> Another (question regarding welfare provisions) concerns the provision of persons of great ability, who though numerically few, have a large share in changing both the physical world and human institutions so as to provide more for the good life for more people. (p. 433)

c. Plan a social program in terms of the wants of the good.

> Any person's wants receive weight according to his known or estimated score in a composite of intelligence and other desirable abilities. (p. 372)
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> Equality of opportunity for those equally deserving does not mean that a government will guarantee the same opportunities to the children of its worst as to the children of its best parents. (p. 886)

d. Place the good in a position of authority.

> In particular, knowledge and power should be given in much larger measure to the able and good than to the dull and vicious. (p. 418)

e. Cure evils by breeding for the good and able by the good and able.

> Certain combinations of genes are favorable to the production of feeble-minded, insane, moral perverts, grafters and others who do the world more harm than good. Selective breeding against them is advantageous, though not so advantageous as breeding for excel-

> lence, since idiots and delinquents probably do much less harm than their opposites do good. (p. 449)
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> A wise trustee with power over the world would probably work chiefly for quality (of human nature) during the next few hundred years and be unworried even if the world's population declined to a billion or even less, if large gains were made in the quality of the genes and the goodness of life. (p. 441)
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> By selective breeding supported by a suitable environment we can have a world in which all men will equal the top ten percent of present men. ... Any forces which increase the relative birth-rate of superior men should be treasured... . (p. 957)

f. Change inferior men by encouraging situations conducive to the good.

> In planning a scheme of satisfiable wants for good men in a good world, he ( a trustee of society) will, however, dare to hope to have a social order in which undesirable tendencies in man's mental and moral inheritance are redirected or transformed or weakened by disuse. (p. 404)

The good life for the good is the predominant guiding principle in the Thorndikian system of thinking. If the world is to be made better, good men will do it. If the race of men is to be made better, selective breeding by good men will do it. If men now living are to be improved, conditions conducive to the welfare of good men will provide for it. The good life itself is measured by the wants of good men. Thorndike holds good men to be intelligent and able men to be good (pp. 702, 741, 882, et cetera). In commerce, good men are presumed to be the corporation executives, "merchant kings," "captains of industry," and men of wealth. Elsewhere, the good are mainly scientists, great thinkers, and administrators. The absolute, then, resides innately in the natures of the elite of society, and by their wants must each social institution be measured.

As presented here, good human nature is an absolute. But his use

of good to describe the acceptable aspects of human nature implies that in Thorndike's thinking there is a hazy and elusive absolute; namely, goodness itself. Just what goodness really is would be difficult to ascertain, but this much is certain, those who are pronounced in their ability and achievement are regarded as having an intuitive guidance into goodness. Hence, while for all practical purposes, good human nature is an absolute, it is only relative to the principle of goodness. Whatever that goodness may be, Thorndike believes that the wants of the able will be our absolute criteria for determining it.

(2) Truth

Objective truth, which is presumed to be in correspondence with objective reality, is another absolute which Thorndike sets up as a guiding principle. Of course, the assumption is that the able and good will have access to truth and that they will automatically live in keeping with it. However, for the less able and less good, truth will be the standard by which they will be governed and the material with which they will be indoctrinated. Following are some of Thorndike's statements pertinent thereto:

a. Truth is an absolute.

> The truth, in the sense of those ideas about reality which correspond to it, enable us to predict it, and lead us to adapt ourselves to it, and it to wants which are satisfiable by it, is a pure good. ... Whatever is in essential conflict with it is bad. (p. 345)
>
> . . . it is better to add to the truth than distribute it to more persons; . . . . (p. 453)

b. Truth justifies its own imposition.

> The God of science is revealed in reality, and science rebels against counting the votes of imbeciles and ignoramuses, who do not know what is for their own good,

> much less what is for the good of others, as equal to the votes of the wise and well-informed... . (p. 351)

c. Those less able would profit by simply accepting the truth.

> If a hundred moralists of today should set up values upon each of the courses of conduct which a person in a given situation might pursue, there would be very substantial agreement. If every ignorant and stupid person should accept the valuations of this hundred, the world as a whole would profit. (p. 344)

Very specifically, then, as has already been mentioned in an earlier chapter, truth to Thorndike is an absolute. Now we find that only the intelligent and good are able to approach truth with any degree of certainty; the masses must trust the experts. Thorndike does not expect to find truth emerging from among the masses. Moreover, truth, in the main, is so well fixed that experts can agree as to its fundamental aspects. In fact, truth with regard to human nature, is such that it can be accumulated and abstracted as one would abstract and accumulate ore from the ground. All persons or forces which are in conflict with truth are "bad." It is a "good," in and of itself, and if men occupy themselves in adding to truth, they perform a worthy task.

Thorndike does intend that truth should be applied practically for human welfare, but his tendency is to apply it as a standard for living and a criterion for progress. That is, truth is no longer a part of the problem-solving process, a working proposition, but it is set apart as an ideal to which society and individuals are compared. And even though we were to presume that individuals are free to think in a Thorndikian society, yet they would not be free to look upon truth critically, and in any event their modes of conduct would be based upon pre-established truth. This, of course, means that minds will tend to be closed to certain subjects to which the label of truth has already

been attached.

(3) Production of Capital Goods.

The creation of wealth is also an absolute in Thorndike's thinking. That is to say, one of the criteria by which an individual or a society may be evaluated is by its production of goods. The key-note to this thinking is to be found in the following statement:

> Some events and acts are almost pure goods. Almost all of their consequences produce much satisfaction and little or no discomfort. The discovery of truth by a man of science, the composition of a fine symphony, the painting of a beautiful picture, such make the creator happy and enrich mankind. (p. 373)

But Thorndike devotes little space to the production of "art treasures." Rather, he makes much of the importance of capital goods as being "good." For instance, he writes,

> On the whole, man's activity in creating capital is better for him than the activities which it replaces. It is true that cases can be found where men sacrifice themselves and their families to pile up capital, whose possession later only debauches their heirs. But many of the valid arguments against the creation of material capital are really arguments against the creation of material capital at the cost of capital in the form of health, skill, and knowledge. (p. 574)

That is, the creation of capital goods is a good, and is a questionable procedure chiefly when it is done at the expense of other items of wealth. In his list of desirable goals for society, he states one aim as being, "Increasing capital goods." (p. 961) In other words, production of capital goods is predetermined as good.

Further evidence that Thorndike places the creation of capital wealth on a pedestal as an absolute by which to evaluate a society, is to be found in the following representative statements:

a. Economic wealth as an isolated factor contributes to the good life.

The second important cause of welfare is income. (p. 431)

After making this allotment (designation of causal factors to the good life) wealth and income are credited with 28 3/4 percent of the causation. (p. 430)

b. Economic goods as such are beneficial to all.

Many persons have no realizing sense of the importance for welfare of capital goods public or private. (p. 585)

I have not the ability or the space here to make clear and emphatic the increase in power which capital gives man... . (p. 586)

c. The owners and managers of capital goods are beneficent to society.

The poor in civilized countries now receive very much better value from the world than they give to it so far as purchasable goods and services are concerned. (p. 956) [16].

With capitalism, Europe attained by the end of the nineteenth century and the first decade of the twentieth century the highest level of goodness of life for good people that it has ever had. (p. 700)

d. The increase of capital goods should be a prime concern.

It is better to expend the time and energy in increasing goods than in equalizing them. (p. 417)

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16. Exploitation of the working man evidently does not occur to Thorndike as a serious social problem. This seems to be apparent in his statement, "From the point of view of the general good, a reasonable rule is that a person should, after a period of labor and its wages, be at least no worse off in mind and body than he would have been without both." (p. 605) In a democracy, even with a capitalistic system, it would be reasonable to expect some reciprocal relationships which bring about enhancement and greater harmonization of the individual. Dewey expresses this concept as follows: "The ultimate place of economic organization in human life is to assure the secure basis for an ordered expression of individual capacity and for the satisfaction of the needs of man in non-economic directions." (Liberalism and Social Action, p. 88)

> . . . the creating of capital is usually a good thing to do for those who do it, and better than what they would otherwise have done. (p. 575)

The relative value of economic goods is not very clearly stated in Thorndike's writings. When wealth in and of itself is looked upon as an important contributor to the good life, when it is looked upon as a fixed good, when its managers and its producers are looked upon as unquestionably beneficent, and when one of the important principles of society is increasing "capital goods" (p. 961) without regard for its distribution, then it becomes an absolute good. That the creation of capital goods is desirable is not questioned by many. The point is that by establishing it as a good, it becomes an end in itself rather than a means to an end, and in so doing it tends to block further thinking.

In summarizing the principles which Thorndike uses to control the conduct of society, he frequently touches upon this elusive absolute which he refers to as "good." Its use has little practical significance except that anything described as approaching it will have an absolutistic value placed upon it. For instance, should any act of behavior be designated as "good," it will become crystallized as virtuous; it will become a model by which other acts will be judged, and in so doing critical analysis of it may cease. That goodness is not defined and that Thorndike treats it so generally makes it all the more dangerous to a society that should have no glittering generalities to block critical thinking.

Specifically, Thorndike does emphasize three guiding principles and justifies them more or less on the basis of their being good or contributing to the good life. They are: (1) good human nature, (2)

truth, and (3) economic goods. Stated differently, Thorndike sets up human nature, truth, and capital goods[17] as criteria for all social programs. Whatever is done in society must satisfy good human nature, or it must be in keeping with or add to truth, or it must produce economic goods, and no further questions are asked. Theoretically, Thorndike achieves basic harmony among these three for he assumes that good human beings will want and discover truth and will produce goods.

But what about living under a government which operates according to fixed principles? When we ask if Thorndikian society is to have a fixed mode of life, we do not necessarily inquire into the rigidity of its details, but rather we ask about a general plan of life which Thorndike seems to have settled fairly well in his thinking. We remember that a society may be progressive in some respects and yet be committed to absolutes. We realize further that society may achieve certain desirable results, but it will cease to progress wherever absolutes are introduced. Dewey points out that absolutes result in blocking reflection.[18] In a society where human nature, truth, and capital goods are absolutes, it seems that much of its progress will be blocked in large areas.

(4) The application of absolutes to specific practices.

In a further perusal of specific "goods" which Thorndike sanctions

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17. In a number of instances Thorndike refers to the creation of works of art as pure goods, but his principal emphasis is upon human nature, truth, and capital wealth, in as much as they appear to have greater bearing on human welfare.

18. "The person who holds the doctrine of 'individualism' or 'collectivism' has his program determined for him in advance. . . . He knows in advance the sort of thing which must be done, . . ." John Dewey, The Public and Its Problems, p. 202.

in terms of human nature, truth and capital goods, we find the following representative quotations:

a. Private ownership is in keeping with human nature.

> Allied to the fantasy that the public made the roads, water works, schools, and parks is the fallacy of supposing that the public will treat its property as a private owner treats his. ... Indeed by the limitations of human nature no million persons owning each one millionth of a property can all have the attitude toward it which each has toward a property of which he owns the whole. (p. 585)

> It is significant that the able and benevolent men of affairs who have made gifts to the public almost never give to a city, state, or national government. Either they do not trust the public to decide what is for its welfare or they do not trust the elected representatives of the public to do what the public asks or to act for its welfare. (p. 467)

b. Capitalism is in keeping with human nature.

> Capitalism has the very great merit of using rewards rather than punishment as its main motives. (p. 701)

> The capitalistic system of private ownership, free enterprise, and operation for private gain has many defects, but the great merit is that it operates on the whole in the interest of human wants. (p. 699)

> Except for the doubtful case of the chain store, I know no business inventions attributable to the cooperatives. . . . (p. 652)

c. Society should be <u>laissez-faire</u>.

> As between freedom and restriction in technology and in business present knowledge of human nature is overwhelmingly in favor of freedom, because it increases the probability that beneficent variations in the conduct of business will originate, survive, and produce offspring, and the probability that power will come into the hands of the able... . (p. 702)

d. Freedom should be granted the able.

> But on the whole, what great men have done by

choice will probably average much higher for the common good than what they have done by pressure from employers, advisors or the public. (pp. 73-74)

Any man whose life and work satisfies some decent human wants and does violence to none, may continue to mind his own business and leisure with a good conscience. He is probably a benefactor... . (p. 540)

e. Unfair competition is not necessarily a part of capitalism.

I cannot find evidence to support the view that the evils of unfair competition increased as capitalism grew and were checked and reduced only by the legislation of the end of the 19th and beginning of the 20th century... . (p. 952)

f. Competition is an important motivator and equalizer.

. . . it (the school) has maintained a forced competition among unequals when it had a golden opportunity to attain its ends far better by using competition with one's peers and with one's past record. (p. 425)

Extending educational opportunity thus not only reduces the inequalities of men in culture and refinement but also in wages if competition is free. Eugenic advance and what will presumably accompany it may carry this equalization to the point where most men are born nearly equal, and where, if competition is free, the pecuniary rewards are approximately the same for most sorts of labor for which there is any considerable demand. (pp. 670-671)

g. Business should operate authoritatively in its own interest.

The welfare of business should be master of the shop. (p. 602)

Employees and consumers are likely to gain more from the ability than from the good will of owners. (p. 689)

h. The poor in our economic system are not exploited but they receive benefits from society.

The poor in civilized countries now receive very much better value from the world than they give to it so far as purchasable goods and services

are concerned. (p. 956)

i. Few should rule the majority.

First, there is an enormous advantage in having a thing done by one man rather than by two or more. (p. 757)

In the capitalistic system of free enterprise and the liberal system of government with freedom of action for all within the law, the load of initiative and responsibility is divided among individuals. There are dangers in the transfer of the load to groups. There are of course many advantages, but it is far harder to collectivize brains than property. (pp. 757-758)

To a psychologist it seems absurd that we should specialize the productive labor (including the supporting sciences) of the world into ten thousand narrow lines with great gain for welfare, but should adopt an opposite plan for public business. Even the reverend town meeting seems rather a symptom of immaturity in government than the acme of its perfection. (p. 808)

It may further be taken as certain that the welfare of society will never be cared for by society acting by itself, but only by the acts of persons. (p. 720)

j. The able should rule.

The able and good should acquire power. (p. 959)

. . . knowledge and power should be given in much larger measure to the able and good than to the dull and vicious. (p. 418)

People should know at least enough to trust the experts... . (p. 524)

k. Truth warrants coercion.

Coercion by nature is unavoidable, and coercion by the truth is highly beneficial. Liberty is not a panacea and should not be a fetish. (p. 413)

The acceptance of impartial scientific truth as a guide in life is certainly a safe and sane policy, and can be a very idealistic one. (p. 390)

The God of science is revealed in reality, and science rebels against counting the votes of imbeciles and ignoramuses, who do not know what is

> for their own good, much less what is for the good of others, as equal to the votes of the wise and well-informed.... (p. 351)
>
> Science will be democratic not in form but in spirit by choosing men as intelligent, wise, and impartial as may be and trusting them to decide as best they can what the "true" values are. (p. 351)
>
> The lower grades (or feeble-minded) can be sterilized. They would feel no disgrace, indeed they need not know anything about the operation. Nor need anybody else know. (p. 439)

1. The imposition of a "good life" is beneficial to a people.

> Most moralists would say that the British rule in India was conceived by private greed, born of injustice, and nurtured and misguided by patriotism, but it presumably has avoided destructive internecine strife and in general done much better for the inhabitants of India than they would have done for themselves. (pp. 533-534)

These specific suggestions are simply applications of Thorndike's absolutistic conception of human nature, truth, and capital goods. They reiterate his lack of faith in the majority and his commitments to thought-repressing absolutes. As such, they imply passive individuals conforming to an imposed authoritarian rule of the "gifted."

Here, then, we have a picture very symptomatic of absolutism. Thorndike presumes that not all men are to be trusted and that in fact, a few can rule better than a great many. So he suggests a board of trustees, made up of the "able and the good." These trustees will attempt to do two things, improve human nature and specify objectives for the "good life." The improvement of the human race will be mainly by selective breeding, but, as an emergency measure, he will coerce men into true, realistic, and acceptable behavior. By repetition and reward he would assure its continuance. As for the improvement of the environment, there are a number of specific recommendations, but the

most important of these is the creation of more capital goods.

If this plan were put into effect we would soon become aware of several strikingly undemocratic tendencies. On the one hand, the masses would become mentally passive to the dictates of the rulers and would thereby lose the opportunity to learn through a vigorous attack on personal and social problems. These considered able by virtue of their material, managerial, or scholastic achievements would be encouraged to live an individualistic life, assuming that what they want must be good for them and must necessarily be right. Moreover, if they attend to the business of satisfying their natural wants, their conduct will benefit the remainder of society. We maintain that this frame of mind would be deleterious not only to the less able, but also to the "gifted" since it encourages anti-social behavior. Thus for one group Thorndike would have laissez fairism, and for another, authoritarianism. Both are absolutistic.

An authoritarian society which allows some freedom of thought may possibly become democratic. Herein is Thorndike's greatest weakness. He not only proposes a psychological method which stifles genuine reflection, but he also sets up absolutes which block thinking. Moreover if an individual should engage in any reflection regarding his action, it would not be with regard to consequences in terms of a plan of action, but rather in terms of an absolute. Only when the individual is free to think critically of the ends used and the means whereby he achieves these ends is he truly in a position to evaluate all of the consequences to his behavior. For when he is committed to an absolute, the individual can reflect only on two points; namely, "How nearly did I reach my pre-determined goal?", and "Did I use the

most efficient means?" The actual consequences to any proposed action are not open to review.

Briefly, then, an absolutism based on inherent human qualities, upon objective truth, and upon the intrinsic value of economic goods does not require a consideration of consequences other than these three. The direct servicing of the wants of human beings determines most of the ends of society. The objective nature of truth and economic goods and the intrinsic value of each prescribes the ends of many activities common to man. Moreover, intelligent social action, and the weighting of consequences is out of place in a system wherein immediate feeling-states of the good are the criteria, and wherein most individuals behave in terms of an imposed way of life. Truly, the Thorndikian ideal is not a democratic one.

As to the original question pertaining to the nature of Thorndike's conception of society, we observe that it is a planned rather than a planning society. Its ends are set absolutes. And despite any appearance of change in this society, its efforts and energies will be directed to the achievement of predetermined absolutes. Moreover, we find that on the basis of these assumed absolutes, specific modes of conduct are proposed. For instance, since capitalism appears not to be averse to human nature, and since it rewards those who are able and good, etc., it must be a good mode of social conduct. Or, because the experts are more likely to make fewer mistakes, and because they are supposed to be good and beneficent, and because few rulers are better than many, an authoritarian society with the privilege of coercing the less able and trustworthy is permissable.

We conclude, then, that pertaining to society as well as to human

nature and reality, Thorndike is a realistic absolutist. It will bear repeating, such an outlook is decidedly authoritarian and undemocratic. If we seek to formulate a type of social organization that will develop the incompetent rather than take for granted their persistent incompetency, and if we seek a social organization that will provide genuine opportunity for participation in social action and problem-solving, it will not be this one proposed by Thorndike in Human Nature and the Social Order.

# CHAPTER V

## SUBJECT-MATTER AS THE REALIST PRESENTS IT

So far our analysis of realism has been confined primarily to Thorndike's, Human Nature and the Social Order, which concerns itself with a presentation of the nature of the individual and the social order. Of course, as Thorndike touches upon the perpetuation and improvement of society, he does deal with the educational process and subject-matter. Thorndike's position with regard to subject-matter and its presentation has already been touched upon in part in this study, in connection with his interpetation of the nature of the individual. However, a summary of these and other statements he makes will be presented toward the close of this chapter for purposes of comparison with Bobbitt's proposals. Since Bobbitt is better known for a realistic treatment of subject-matter we propose to confine ourselves mainly to a study of his position pertaining thereto. Our primary source will be Bobbitt's recent publication, The Curriculum for Modern Education.

Let us first assure ourselves of Bobbitt's realistic and absolutistic position. We must do this especially in the light of the language and concepts he seems to use in his recent text, The Curriculum for Modern Education,[1] since many of these statements and inferences appear to be in keeping with a democratic conception

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1. Page references in parentheses throughout this chapter refer to Bobbitt's, The Curriculum for Modern Education, except in cases where Thorndike's Human Nature and the Social Order is cited.

of education. For example, he says:

1. Science is a study of relationships. Scientific discovery is largely the discovery of relations. (p. 270)

   . . . the wisest man is he who sees the most things the most clearly in the largest number of relationships. (p. 91)

2. Part of the scientific process is that of formulating truth.

   . . . some of them (scientists, etc.) build out the seen into configurations that extend far into the realm of probability, possibility, and hope. (p. 403)

3. The human mind studies configurations, and the problem of learning is that of seeing "whole" configurations.

   . . . it (human mind) visualizes the whole as best it can. (p. 400)

4. Understanding involves the ability to see relationships of parts to the whole.

   When he (an infant) has broken the continuum up into a large number of elements and sees them clearly in their natures and relationships, then he has a large understanding. (p. 91)

5. Education requires not merely the acquisition of fixed knowledge, but it requires an actively alert learner.

   Their basic task (the school's) is not to aim at his mastery of any fixed body of prepared knowledge, but rather at the continuity of observation, reading, and discussion of the affairs of the social order that will bring him the needed knowledge as he goes along. (pp. 207-208)

   When a person's thought life is carried on for him by others, then in his practical performance he must also depend upon them to vitalize his will to execute the plans that they have made for him. (p. 68)

6. Society is organismic.

   . . . all (agencies) are coordinate, since they are cooperating parts of a single organism in promoting the

well-being of the whole and of every part. (p. 346)[2.]

If we were to take these isolated statements as representative of Bobbitt's present point of view, we would be led to the conclusion that he has not only modified and changed his earlier realistic position, but he also has now adopted a relativistic outlook on education. His language is acceptable and his phrasing seems to be compatible with democracy, but are we ready to accept him as a relativist on the basis of these statements? Many educators who have not been taught to be more than superficially discriminating frequently adopt practices in their schools because such practices are clothed in acceptable language. Similarly, the masses may vote for a political machine because it presumes to protect "God, Mother, and Country." A cloak of words wins their support. But, in studying Bobbitt, we must inquire carefully to see whether Bobbitt really means what these statements, taken in isolation, appear to mean. We propose to do this by viewing his assumptions concerning the nature of reality and his assumptions bearing upon human nature, society, and the education of society.

A. The Nature of Reality and Truth, According to Bobbitt.

In the chapter treating reality and absolutisms a number of alternative positions regarding the nature of reality were cited. We have already observed that Thorndike accepts a realistic position, and in doing so he sets up reality as an objective existence having fixed meaning in terms of content or structure. For him, reality exists in

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2. Some of the statements given here are stated in isolation from the paragraphs or units which, as wholes, are not organismic nor relativistic in their outlook.

an objective, absolute form apart from an observing individual, and realistic living necessitates an adaptation to this reality and its verbal parallel, truth. Consequently, Thorndike cannot accept the relativistic proposition that the meaning of reality is found in the relationships that an identity represents and that truth is a formulated working hypothesis upon which the individual bases a plan of action.

Bobbitt holds that reality is independent and the mental process involved in the apperception of reality is identical for all persons. If all persons saw the same phenomena with the same perspective, etc., each would of necessity have the same mental impression. Pertaining to the tale of the six blind men and their various conceptions of an elephant, Bobbitt writes:

> The trouble arose from the incompleteness of each man's perception of the animal. If each had passed his hands over the entire organism, then each would have built his impression to relative completeness and there would have been a full measure of agreement. (pp. 100-101)

> The remedy for controversy is to eliminate incompleteness in the series of impressions that persons get of things. . . . For anything there can be only one true understanding. (p. 101)

As applied to the nature of truth and the means by which Bobbitt attempts to discover it, we find further manifestation of a realistic position. He tells us that "The test of truth is not the way it was discovered, but rather the degree of its correspondence with reality." (p. 13) That is to say, correspondence to objective or independent existence is the final test of truth. Therefore an individual may formulate a statement of truth, but that statement can't be regarded as be-

ing true unless it describes an existence as it is. The statement itself is not a formulation of a working hypothesis but rather a description of what is presumed to exist objectively.

Bobbitt holds further that truth pertains primarily to established, objective data. He writes:

> While deficiencies in the psychological and social sciences are obvious, yet, as a matter of fact, much reliable knowledge in these fields has been established with a high degree of probability. For each of them there is a large amount of established truth - and this of fundamentals - that can be used with confidence for practical guidance and as a touchstone for use in validating further truth. (pp. 14-15)

This uniformity is to be gained through the following two conditions:

> (1) The thought is to be truth, as nearly as it can be ascertained, . . ., and (2) the truth is to be stabilized in terms that do not vary from person to person, from time to time, or from place to place. (p. 271)

We observe, then, that truth is presumed to be a kind of generalization which arises automatically through sense perceptions. It is static, a statement of what is and not of what can be, and something concerning which there will be agreement.

B. Bobbitt's Conception of Human Nature.

In our study of Watson we found he considers himself deterministic regarding human nature. He holds that fixed situations mold and fix passive human nature.[3] We also found this to be true

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3. John B. Watson, Behaviorism (1930), p. 183, states that he is deterministic and he goes on to elaborate in the following manner: ". . . the child or adult has to do what he does do. The only way he can be made to act differently is first to untrain him and then to retrain him." (Italics are in the original.)

of Thorndike in that he proposed the following:

1. Many neural connections are gene-determined.

2. Human nature is passive both as to genetic forces and the fixed elements of situations which mold or form the neural connections.

3. If any activity is initiated by the individual, or if behavior is guided in any specific direction by personal elements, that initiation and that direction are determined by wants or drives.

On the basis of the statements and practices of Thorndike and Watson, who have found meaning to lie within the elements of human nature and its environment, it seemed reasonable that we came to the conclusion that they are both deterministic in their outlook on human nature. The question which confronts us concerning Bobbitt is, "Is he also deterministic in his outlook on human nature?" If Bobbitt were asked this question point-blank, he would undoubtedly respond in the negative for he appears to assume that individual initiative, reflection, and the discovery of relationships are important aspects of human living. Since these concepts are incompatible with the realistic position which implies that human nature is passive, it is our task to see whether or not Bobbitt takes himself seriously.

Bobbitt frequently makes statements similar to the following:

> More than they realize, and largely in ways other than what they seem to think, the future of our nation rests with its schools, colleges, and universities. They have unparalleled opportunity to assume leadership in the advance of society by leadership in those ways of intellectual living that will enable the members of the whole population to grow genuine understandings and therein do their own thinking as self-directing free men and women. (p. 218)

From the above we gather that men and women must be free to think and act. This is the very essence of democratic freedom. It represents

freedom of choice upon an intellectual basis. But let us compare this statement with the following:

> Tendencies laid down in the very nature of man's being during ages of ancestral experience have acquired a power and a momentum that is the very essence of the life process. (p. 26)

On the basis of the second statement, we might conclude that in part the individual is not free to act on his own. It appears as though there were prescribed patterns of behavior by virtue of heredity. That is to say, the individual is not entirely free to make his own decisions regarding behavior, for some types of behavior are presumed to be fore-determined, or fore-ordained, through heredity.

On the surface it may seem we are now dealing with far-fetched, irrelevant matters, but we must take seriously this task of trying to find out whether Bobbitt admits the necessity of personal intellectual freedom for everyone and plans his educational program accordingly or whether he limits himself to the determinism of inborn drives and the impact of stimuli on passive individuals. To aid us in making our decision, we will further investigate Bobbitt's conception of original human nature and his propositions concerning the matter of changing human nature.

Since Bobbitt is an expert in curriculum construction rather than in psychology, and since his writings pertain primarily to curriculum, it is difficult to find an adequate discussion pertaining to original human nature in his writings. He does, however, make some statements which lead us to definite conclusions regarding his conception of original human nature as he writes about learning, play activities, and

other types of behavior common to the classroom. And on the surface, these statements tend to be absolutistic in their implications. Bobbitt appears to be atomistic and vitalistic, assuming that a deus ex machina accounts for the integration of the elements.

We have already indicated that Bobbitt holds innate tendencies to be essential to the human being. We find another statement bearing upon this same position when he treats play activities and their motivation. He writes:

> Left to his inner urges alone and possessed of the means of following them, man's play-life tends to be a hungry seeking after the intensified forms of pleasurable eating, drinking, smoking, dancing, sex experience, gaming, gossip, self-exhibition, social domination, and the like. (p. 39)

He clarifies what he means by "inner urges" in another connection. He writes:

> The things that are absolute necessities, nature not only provides for in automatisms and inner drives, but also puts them practically beyond the power of human beings to prevent. (p. 214)

It seems quite clear that he accepts inner patterns or drives as determiners prescribing certain aspects of human behavior. The individual is comparatively helpless in controlling them. As a matter of fact, in the discussion following the above quotation, Bobbitt suggests that one of the functions of education is that of understanding these drives against which human nature is powerless to act. These drives, are presumed to be imposed on the mass of living tissue. That is to say, Bobbitt implies that individuals cannot or will not protect themselves through an analysis of a situation and by insightful activity. Therefore, nature (whatever nature may be) places drives within him as a

protective agent. This is a vitalistic compromise similar to the one we have already witnessed in Thorndike. Yet this is the only reasonable position a realist can take if he admits there is organization and design in human nature. But in doing this he separates the functional organization of human nature from the organism itself. That is to say, functions are not a part of the organism itself, but they are imposed on the organism.

But we cannot confine Bobbitt exclusively to the drive or instinct concept of human nature, for he holds that intelligence may control some drives and make adaptations to others. That is to say, he holds that some instincts which guided primitive man in primitive situations are not always safe guides for modern man living in modern situations. We read for instance with reference to intellect and primitive tendencies that,

> Intellect was given to man for the purpose of controlling every form of behavior that could not safely be left to the primitive urges. Play cannot be discarded; . . . . But play must be taken in hand by intellect, and guided into and along the channels that are approved by intellect as fruitful and wholesome. (p. 40)

We must note, however, that for the average person intellectual control over innate drives is never presumed to be complete. For instance, Bobbitt implies that inherent patterns of conduct persist despite average intelligence and that one should become reconciled to them. The following statement, although somewhat ambiguous, does leave this deterministic impression:

> All that can be hoped for is that each live with the degree of wisdom that it is possible for him to possess. He is not to have his life planned and managed for him . . . . This means

> that they (the mediocre) have a right to live that imperfect kind of life that normally issues from their natures. (p. 363)

But how or where does self-control enter into this picture? If Bobbitt were asked this, he would probably repeat a commonly expressed thought, "Freedom comes from understanding and in compliance." That is to say, in order to keep drives and impulses on a high level we must understand them, recognize their presence when making adjustments, or even go so far as to avoid certain drive-stimulating situations. Is this freedom of the will; or is this just a high level of passivity to the inevitable?

Bobbitt informs us that freedom comes only through understanding. He also expresses this idea in connection with emotional control in situations manipulated by "charlatans and demagogues." "Immunity to their techniques can be obtained only through". . . experiences with reality, out of which alone sound understanding grows." (p. 108) That is to say, emotional control lies in understanding, and it is upon the basis of this understanding that intellectual control can be exercised over innate behavior patterns. But if understanding is simply another name for conditioning (and we shall soon see that it is) then the operation of intelligence will be only an adaptation of drives to the stern realities of life. Emotional control is only the raising of the threshold to emotionally stimulating situations.

We observe that Bobbitt's use of the terms intellect and understanding imply a mind passive to external stimuli. For instance, he points out that knowledge or understanding of reality will ". . . arise automatically out of a sufficiency of particulars that are clear

and significant." (p. 99) In another instance Bobbitt writes,

> The more vivid the impression of the reality at the time, the more quickly and firmly associated are word and meaning. (p. 247)

Elsewhere we read,

> . . . if impressions be weak, or if they decline too much in frequency, the idea grows relatively anemic and ineffective. And without repetition of any sort, it dies away beyond recall. (p. 89)

Briefly, then, we may characterize Bobbitt's psychology as one of mechanistic associationism. He does not describe the reflex arc as a necessary part of his system, but this omission does not mean that he is less mechanistic than Thorndike or Watson. He simply assumes that the persistence of impressions, a repetition of experience, will stamp into the passive mind certain connections or associations. It appears then, that Bobbitt has not changed essentially from his earlier realistic commitments. Our task, now is to ascertain just what this realistic position implies with regard to certain educational practices. As to vitalism, Bobbitt makes atomism and vitalism bed-fellows, just as Thorndike does. This is another symptom of absolutism which should reflect on his educational practices.

C. The Nature of Subject-Matter.

The subject-matter of education and the manner of its presentation are closely related to conceptions regarding reality and human nature. The absolutes more or less determine the nature of subject-matter, and the conceptions of human nature more or less prescribe the manner in which the absolutes are to be achieved or sought. But, just as

absolutistic commitments reflect upon one's conception of human nature, so also will assumptions regarding subject-matter and its presentation be inextricably bound together. For our purpose, it will be best to treat the two topics of subject-matter and methodology separately, yet it will soon be discovered that there will be a great deal of overlapping, since both are part and parcel of the same process. This point will become more obvious as we progress in our analysis of Bobbitt.

Pertaining to subject-matter, earlier in his career Bobbitt wrote that "Education is a shaping process as much as the manufacture of steel rails."[4] And in order to facilitate this molding process he urged the schools to take the following four steps:

> (1) . . . we need first of all to draw up in detail for each social or vocational class of students in our charge a list of all the abilities and aspects of personality for the training of which the school is responsible. (2) . . . determine scales of measurement in terms of which these many different aspects of the personality can be measured. (3) we must determine the amount of training that is socially desirable for each of these abilities and state these amounts in terms of the scales of measurement. (4) We must have progressive standards of attainment for each stage of advancement of each ability in question.[5]

To put it simply, Bobbitt advocated teaching people to do better what they will be required to do anyway. This position is characteristic of trends in realistic curriculum construction. Bobbitt seems to have set the pace for the movement of which he and Charters are

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4. Franklin Bobbitt, "Some General Principles of Management Applied to the Problem of City-School Systems," Supervision of City Schools, Part I Twelfth Yearbook, National Society for the Study of Education, p. 12.
5. Ibid, p. 49

contemporary leaders. Some of the recently renovated and "progressively modernized" schools have employed this technique of studying activity requirements of society in order to determine what should be taught. For instance Stephens College for women, one of the more notable examples, employed Charters to make a survey of the post-graduation requirements of its students in order to determine what it should teach. To say that this approach is one of teaching the learner "life" is beside the point. It is essentially teaching him specific objectives which were decided upon by some authority. In other words, it is an authoritarian education. And, as far as the matter of "life" is concerned, it is life "as is" rather than a way of life which assures a reorganization of the life that is now extant.

But, grant that at one time Bobbitt advocated the teaching of life "as is," we have no assurance that he currently proposes similar objectives. His most recent publication Curriculum for Modern Education is markedly dissimilar from his earlier writings both in language and the concepts used. Let us therefore examine some of his recent statements regarding educational objectives.

With regard to parental responsibilities in education he writes,

> To get their children properly educated, the first responsibility of parents is for them to live the good life themselves on at least the level that they desire their children to attain; the second is that they cooperate with the schools in the latter's specialized leadership in guidance of juvenile living . . . ; and the third, that they see that the ways made clear by the school are followed by the children in their latter's out-of-school living. (pp. 105-106)

In other words, the first responsibility of the home is to furnish an

acceptable model of the life that is to be lived; second, cooperate with the school; third, help the school to follow through with respect to "ways made clear." The point he makes regarding home cooperation is commendable, but the parental choice of a level of the good life and the school's making a way clear suggests an authoritarian choice of specific objectives.

But someone may interrupt at this point and state that Bobbitt writes, "No one can know what any man's understanding ten or fifteen years hence is to be . . . ." (p. 138) This refers to changing situations. For the present, however, he is not averse to deciding what is currently required. And we shall see later how he handles the matter of adjustments to changing conditions. Right now let us see how Bobbitt regards human needs as worthy criteria for choice of subject-matter. For instance, he informs us that,

> The educative process begins with NEEDS. The basic task of education today is to discover with the greatest possible degree of certainty the long series of things that each right-living person needs to do and to have. (p. 228)

Moreover, he adds that,

> The basic reason why a well-balanced and comprehensive plan of general education has nowhere yet been formulated is that no school or college has yet developed its thought about laymen's needs. No official general statement of them that is even semi-adequate yet exists. Educational history will be made by the first institution or system that has the intellectual virility to work out a balanced, verifiable statement of laymen's needs. (p. 229)

Thus while Bobbitt indicates that needs may vary considerably, he holds that some general statements of needs can be made which will furnish a basis for general education.

We observe, however, that the needs must be those of "right-living persons." Here, then, we have not only a statement implying that a verifiable list of basic needs can be constructed for purposes of directing education, but we also have an indication that those tabulated needs should be of "right-living persons." In other words, the needs of the good should determine the nature of education - at least of general education.

Let us direct our inquiry into the nature of the acceptable needs. Earlier in the text in question, Bobbitt states that "In the education of any person, the good life is both the objective and the process." (p. 5) But he becomes vague in describing the "good life," indicating that it is more or less the best living possible in sixteen general areas and two specific (vocational) areas. Elsewhere we read that,

> The foundational matter in good citizenship, the one that conditions and determines all others, is for each person to be what he ought to be as a human being and to live as he ought to live. (p. 362)

It would appear here that the good life is more or less living on the basis of "felt needs." But Bobbitt dispels in part the laissez-faire implications involved here by stating "When wants and needs diverge, the only way to bring the two together is to change the wants." (p. 362) And shortly thereafter in this connection he mentions "right-living." Thus the needs relative to right living become his criteria. We read,

> If the growing individual will rightly live his life, according to the sanctions of science, in the smaller society of the family or in the larger one of the general social order, the experience itself requires him to get a true view of a thousand factors as he deals with them; the satisfactions and dissatisfactions involved will give

> the things the proper affective colorings and impulsions. (p. 107)

Elsewhere he writes,

> The right is the normal, sanctioned by science. The wrong is the departure from it. One can know and hold to the normal without ever having heard of the departures. (p. 326)

By now it is probably pretty safe for us to assume that for Bobbitt some of the objectives of education are set by so-called objective science, which specifies the nature of the good life or the right way. But we still know little about just what science will specify except for clues such as the following:

> Only as pupils are actually living and dealing with things in normal, vital ways can they have the needful intellectual and emotional impressions. (p. 105)

> The good life of man consists of a countless number and variety of activities . . . . It is not derived from any special system of educational theory, but only from looking at the lives of human beings as they go on from day to day. (p. 6)

> When nature goes to the trouble of implanting instincts in her creatures and of dangling before them the lures of pleasures, this is clear proof that the activity is a needful one. (p. 177)

Underlying these statements are two assumptions, that objective reality requires some adjustment to it, and that innate human nature, another reality, requires reconciliation to it. On the main, a reality situation seems to determine needs, and human nature prescribes wants. If there is a conflict between needs and wants, the former are the more trustworthy. (p. 362) Herein Bobbitt reiterates his faith in activity analysis. The norms will disclose which activities are required by the reality situation and by the reality of human impulses. On the surface Bobbitt appears to accept Rousseau's position, but in the end he succumbs to activity analysis as a criterion for

subject-matter.

There are numberous arguments for and against this type of criterion for subject-matter. The most obvious objection is the assumption that what ever exists must be acceptable. The status quo appears to justify itself. Apparently Bobbitt does not object to the status quo, for he justifies current practices on the basis of his absolutes, reality and human wants. Thus, he writes, "The public can have what it needs when it wants what it needs." (p. 141) Or elsewhere he writes,

> If persons are living the good life, they are making demands for the right kind of things and thus giving to each agency the right things to do. (p. 361)

By the same token, institutions and practices not meeting genuine needs and wants will simply cease to exist. And, we can conclude that whatever does exist must exist by virtue of its meeting basic human requirements. Hence, whatever exists must be necessary and good.

A second democratic objection is related to the first, and in a striking manner, Bobbitt himself illustrates the point. The individual who is committed to the proposition that "whatever exists must be acceptable" will close his mind to a critical analysis of existing agencies, institutions, and practices. This is what Bobbitt has done. He does not appear to question the existing order. Of course, he recognizes many of its imperfections, but he feels that somehow if those imperfections are significant, they will be eradicated by the force of human needs and wants. With this frame of reference, the individual will not attempt to make required changes so long as he can tolerate them. In other words, Bobbitt's position advocates commitments

to absolutes in such a manner that there will be a tendency to perpetuate the status quo. Later, as we examine Bobbitt's proposed teaching techniques, we can be assured that the status quo will persist. In other words, in following Bobbitt, significant change will be practically impossible.

It has already been pointed out that in a democracy training in problem-solving should have priority. Only by developing competency and independent learning ability can individuals be adequately prepared for life in a problem-solving society. In order to solve problems individuals must be competent in the use of tools and techniques, and must have insight. But tools, techniques, and insights are acquired in the process of solving problems. The so-called fundamentals, the tools and understandings, are not ends in themselves but are inseparable from the problem-solving process of life and are acquired only in the solution of problems.

But if guidance in problem-solving is the chief objective in education, the subject-matter of the school must contribute to this major aim. Bayles points out,

> . . . each unit of study must represent a satisfactory answer to the questions. (a) "Does it contribute toward enhancement of outlook?" and (b) "Does it contribute toward harmonization of outlook?" [6]

These two criteria for subject-matter should lead the learner to a greater facility in his reorganization of experience to (1) greater understanding of what has happened, (2) an ability to predict what may be a consequence to any similar conduct or series of events, and

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6. E. E. Bayles, "The Relativity Principle as Applied to Teaching," University of Kansas Bulletin of Education, Vol. IV, No. 4, p. 7.

(3) greater independence in coping with novel situations. John Dewey informs us that:

> All that the wisest man can do is to observe what is going on more widely and more minutely and then select more carefully from what is noted just those factors which point to something to happen." [7].

If the educative process has any justification, it is to be found in the criteria set up by Bayles or in leading to what John Dewey describes as ". . . all that the wisest man can do . . . . "

Now then, returning to Bobbitt's criterion for subject-matter, we observe that its fallacy is not only in crystallizing the status quo but also in its leading to a false adaptation to the assumed realities of circumstances and human nature with a consequent loss in ability to meet novel situations. This we shall see exemplified more adequately as we touch upon the nature of subject-matter.

Bobbitt's curriculum for Modern Education is replete with references to the nature of subject-matter. In several instances Bobbitt indicates that it must not be a detailed list of activities, for each individual may require a different amount of certain activities. One example of his position is as follows:

> The proper curriculum of a child or youth cannot be a ready-made blanket of physical living to be imposed upon him. It cannot be a general recipe that a school official or committee of teachers can "make" for the general and equal processing of all pupils. (p. 314)

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7. Dewey, Democracy and Education, p. 171

However, he adds,

> If there is a printed curriculum that has been imposed, it can properly do no more than to present a generalized statement of the science . . . . The teacher needs to be so much a master of the science as to be able to apply it to the pupil's nature and situation and therein see what his specific course is to be. (p. 315)

This means that Bobbitt does not necessarily object to the specification of what should be learned, but he objects to its being generally applied to all learners. The reader may well ask then, how can Bobbitt be classified as an activity analyst if he insists on a specialized program for each individual? This question is best answered by making a brief analysis of Bobbitt's conception of the curriculum.

We observe, first of all, that Bobbitt designates eighteen areas of activity which comprise the "good life." Sixteen of these are general and apply more or less to all persons. Two other areas are also designated as part of the good life, but they apply especially to the acquisition of skills and training pertinent to occupational proficiency. Bobbitt intends that persons under the guidance of an educational program shall live as completely in these areas as is possible. He writes,

> The purpose of education is to bring each human being to live, as nearly as practicable, in everything that he does in a way that is best for him. (p. 5)

That is to say, the areas of the good life shall be outlined for the learner. And, as has been indicated earlier in this chapter, the details of any educational program will be based upon needs.

In this ". . . balanced, verifiable statement of layman's needs," (p. 229) the needs presumably prescribe the areas of activities of experience rather than the specific learnings to be acquired. We read for instance regarding the schools that,

> Their present task is to discontinue the attempt to deliver ready-made understandings to the young people and in its stead to guide the processes which have always given, and which continue to give, human beings their actually operative understanding. (p. 215)

Or more specifically, "The curriculum of any person is the course that his individual life runs." (p. 296)

On the surface the previously cited reference smacks of Rousseauism, but actually its danger lies in its authoritarianism. Bobbitt makes frequent reference to "right" modes of living when he discusses "living life." In other words, ultimately the curriculum is a way of life imposed by the school. In this connection we observe that Bobbitt is not averse to such a plan. We recall that he states,

> If there is a printed curriculum that has been imposed, it can properly do no more than to present a generalized statement of the science. (p. 316)

At face value this implies that if a list of right modes of conduct can be compiled, its imposition is not at all out of the way.

But Bobbitt makes more than a permissive allowance for the imposition of pre-selected curricular activities. He proposes them and implies their necessity. In numerous instances he indicates that education should teach the "right way" of living. For instance, we read,

> It is the function of education in human society to set itself against error in every form. Its purpose is to do what is possible to prevent man's traveling the wrong road . . . . The method of dealing with mistaken ways cannot be one of imposing censorships and prohibitions, . . .

> The only way it can be effective is to bring the population to such a mode of living that they will want to use the radio, motion pictures, and the current press for the superb services that they can give. (p. 184)

Of course, here Bobbitt tends to discredit coercion, but he proposes making individuals want the right. This is simply a subtle type of coercion which implies that predetermined good conduct can be imposed without the individual being fully aware of what is really taking place.

In other instances Bobbitt again refers distinctly to the "right ways" of living. For instance, he mentions that the function of the school is in a sense parental, wherein "It is to help children and youths rightly to do everything possible for themselves. . . ." (p. 61) In still another place he writes,

> When the right ways are the only ones that children ever see, when they are simply taken for granted as the only possible ones, and when the question of their rightness is never so much as raised, their education is accomplished more or less automatically by the natural educative processes. (p. 326)

Shortly thereafter Bobbitt adds that "The right is the normal, sanctioned by science." (p. 326) It seems obvious from these statements that there is a right way of living which is to be taught or "put over" under the guise of learning. The right way is presumably ascertained by objective techniques and will be taught as having the sanction of science. The learner is not required to consider alternate plans, to test hypotheses nor to evaluate them in terms of consequences; rather, he will simply conform to predetermined standards.

Here again some may state in defense of Bobbitt that he does not believe that there is only one right answer to any problematic situation. True, Bobbitt states that "There is no one right way, but as many

right ways as there are persons." (p. 363) But he follows by stating that "It is relative to the nature, history, status, and situation of the individual." (p. 363) Then he adds,

> Other persons of lower native ability and cruder tastes will live correspondingly simpler lives and for the purpose will require fewer things, smaller amounts, and less expensive qualities. (p. 363)

From this point on he mentions freedom and explains that applied here it means the mediocre". . . have a right to live that imperfect kind of life that normally issues from their natures." (p. 363) The point at issue is not a consideration of alternate ways of living but rather a choosing of levels of rightness. Bobbitt will expect the superior to go far in their adaptation to reality, the mediocre, by virtue of their innate natures, will be expected to gravitate to a lower level of adaptation. This is an argument for a graded curriculum or a homogenous grouping of pupils, and not for a consideration of alternate ways of living. In other words, all learners will be expected to learn the right ways, but the superior will be expected to learn more right ways and to learn them faster.

But, if Bobbitt specifies "right ways" of living, what are they? In other words, just what evidence do we have of his specific curricular requirements? Let us mention first of all that Bobbitt does not claim to know specifically what should be taught, but following are some items he mentions. What we must not lose sight of is that these items are essentially modes of conduct which are to be "put over" on the learner, and in so doing the learner will not have opportunity to make his own decisions with regard to them or their consequences in his life.

It has already been mentioned that Bobbitt stresses learning life as it is now. Actually, as presented by him life becomes subject-matter. He writes,

> The world of today he needs to know now; that of next year, he needs to know next year, and so on, . . . (p. 138)

Elsewhere he writes,

> The complexities of the world today demand that men and women have a sound understanding of things as they are. (p. 115)

That is, the reality of today, the world now facing the learner is subject-matter. Of course, this means that today's reality is an absolute that must be put over in the classroom.

The form that the realities will take in the mind of the learner will be that of understandings concerning it. Bobbitt writes, "Among man's needs, none today is more imperative than understanding." (p. 51) Understandings are presumed by him to be the results of experience. He writes, "The realities involved in human living are to be learned at the places where they enter into human living." (p. 108) The assumption is that complete experience will lead to true understandings. We read, "The remedy for controversy is to eliminate incompleteness in the series of impressions that persons get of things." (p. 101) Hence, subject-matter is a living of pre-determined segments of life.

In this connection, we observe that completeness of experience is presumed to lead to true understanding. Experience is assumed to be an absolute in that it guarantees a given end, a true understanding of objective reality. Bobbitt writes, "The remedy for controversy is to eliminate incompleteness in the series of impressions that persons get of things." (p. 101) He assumes that reality has independent meaning and absolute stimulus value and that the individual is passive

to sensory perception. He states that "If a person has full experience with the things of a class, nothing can prevent that fusion of them in his mind . . . ." (p. 99) The point is, Bobbitt holds the position that experience will lead to definite results regardless of the goals of the experiencing individual. This means, that life or reality as it now exists, can be impressed upon the learner by the expert who will arrange for the right experiences.

Should one question this interpretation of Bobbitt, other references can readily be produced which are in keeping with this general theme. For instance, Bobbitt writes, "The little child most needs to be shielded from every error." (p. 164) That is, Bobbitt is not willing to permit the immature to make independent decisions. Elsewhere he writes, "It is the function of education in human society to set itself against error in every form." (p. 184) In other words, the teacher or parent must decide which understandings are the right ones.

Best evidence of Bobbitt's authoritarianism are his statements referring to the "musts" of education. One of the necessary learnings proposed is the fundamentals. For instance Bobbitt writes, "But let his general education ground him soundly in the fundamentals that appear and reappear in human affairs, . . . ." (p. 391) One area in which fundamentals are to be acquired is history, of which he writes,

> The design varies, but the fabric is always woven of the same materials. It is because history continues to repeat and show these things endlessly and from all angles that historical-mindedness is imperative for human guidance." (p. 143)

To Bobbitt this means that certain fundamentals must be acquired. It also means that right answers or specific modes of conduct must be taught. Because the principles involved in history will be ascertained by the expert, the learner will be required to learn them as such.

The number of personal decisions regarding fundamentals will be few.

But Bobbitt does not limit his curricular requirements to the fundamentals. He also indicates that certain of our cultural tools are necessary. For instance, we read that "Good spelling is a needful accomplishment." (p. 253) In relation to mathematical combinations, he deplores the practice of teaching them at the earliest year possible, and then states,

> A more rational mode of placement is to discover the age level when the pupil must begin to use the operations in his intellectual and practical activities, and to give the drill as needed at that point. (p. 282)

What we observe here is that Bobbitt is not willing to leave the learning of cultural tools such as spelling and arithmetic to chance. If he believes that experience will teach what is necessary, then he should not be concerned about when or how much of anything is learned at any one time. The rounding out of experience will attend to the distribution and intensity of the material to be learned. But, here also, Bobbitt does not leave the teaching of cultural tools to the requirements of experienced life. We observe that he holds that the necessary tools can be ascertained before hand. His only restriction in this regard is that these tools must be essential to life as it is now. (p. 138) But in the classification of any cultural tool as being necessary at any stage of a learner's development, this becomes an imposed absolute.

There is another manner in which Bobbitt reveals that subject-matter is something that must be "put over" on the learner. In connection with the teaching of mathematics he states that,

> It is good for man, dwelling as he does in the sloughs of imperfection, to have ever before his eyes the portrait of at least one thing that is perfect. (p. 285)

This statement discloses an absolutistic conception of some things (arithmetic in this instance) and on that basis justifies their presentation as models. For Bobbitt it may be arithmetic, for another educator it may be the Ten Commandments, and for a third it may be arithmetic, the Ten Commandments, the life of George Washington, and a host of other things. Thus, Bobbitt implies here that perfection is an acceptable criterion for subject-matter. The assumption that anything can be perfect and that as such it can be taught is absolutistic. It would be logical to argue from this point for a completely authoritarian education.

If there remains a question of Bobbitt's position regarding the pre-determination of necessary subject-matter, one can dispel that by what is said with regard to the function of the family in the education of the child. Bobbitt writes,

> The first duty of the parents is for themselves to live the good life. They do it, not as self-denial, but as self-realization. In doing so, they properly condition life within their families. Thus they set the standards of thought and action for all the members, . . . ." (p. 325)

Then in another instance Bobbitt writes,

> To get their children properly educated, the first responsibility of parents is for them to live the good life themselves on at least the level that they desire their children to attain; . . . . (pp. 105-106)

Both of these references imply that living the good life is more than experiencing activities in all eighteen areas mentioned by Bobbitt. By reference to self-denial and level of attainment, Bobbitt suggests

that he has a notion of the good life as representing specific modes of conduct which can be labeled as "good." Here we find as we did with Thorndike that there is an elusive absolute, the good, which prescribes specific behavior. His reference to "at least one thing that is perfect" (p. 285) tends to verify this conclusion. That is, Bobbitt does have an absolute which he fails to mention specifically but one which is reflected in his educational program; that absolute is good. This much is certain, Bobbitt holds that some modes of behavior can be pre-determined as right or good, and as such they shall be taught to the developing individual. The fact that parents, for instance, are to live this good life before the child is admirable, but we observe that Bobbitt's purpose in this recommendation is to impose it subtly upon the learner. The point is, that since the parents live in this manner, it must be good. The supposition is that children will not be critical of their parent's choice.

We must conclude that Bobbitt holds that some subjects are necessary and must be taught. They may be the fundamentals of reality, they may be the essential tools of our culture, or they may be elements of the good life. And though Bobbitt specifies that they be related to current life rather than the future, they can be pre-determined and set up as objectives to be achieved or "put over" in the classroom or home. And as far as the learner is concerned, he is to trust the judgment of the experts (teachers, curriculum experts, parents, et cetera). Their objectives will become the objectives of the activity program imposed upon the learners.

Should one be so generous as to grant that the objectives set up shall be relative to time and space, we have no guarantee that

the learner will acquire them and retain them as relative. In some measure one or more of the "necessary" fundamentals, or specifics of the good life will be taught as absolutes, and the learner will retain them as ends in themselves. For instance, if the model behavior of the parents referred to were "put over" without the learner having opportunity for making a critical analysis, it will be <u>good</u> for him because his parents did it and not because it stands on its own merits in terms of his own life. Or, to use another example, Bobbitt indicates that a basic need for the learner is ". . . know the realities themselves . . . ." (p. 130) Elsewhere he writes, "The complexities of the world today demand that men and women have a sound understanding of things as they are." (p. 115) The realities which are the complexities of the world today, are things that Bobbitt could tabulate and enumerate on frequency tables as things to be learned. That they must be taught will crystallize them in the minds of both teachers and learners as ends in themselves. They require no other justification for teaching than the fact that they exist. Under such conditions the learner will acquire them as absolutes, and as such, he will be loathe to think critically of them. Thus, even though subject-matter may possibly be regarded by some as relative, insistence upon its acquisition will put it in the position of an absolute both to the instructor and to the learner.

If subject-matter must contribute to the harmonization of an individual's outlook by assisting him in the resolution of conflicts, and in developing his ability to handle conflicting situations (problem situations), we are forced to question the contribution that Bobbitt's educational subject-matter will make. As it appears, Bobbitt would

have the learner acquire the important things "as is" without an opportunity for critical analysis. Things determined as right will be taught as such.

D. Teaching Methods

So far, our chief difficulty with Bobbitt has been one of discovering what it is he really means to say. That is, his Curriculum for Modern Education is so well strewn with relativistic phraseology that it is difficult to believe that the statements which have an absolutistic tinge are representative of his position. But if he is absolutistic, our anaylsis of his proposals for teaching should further substantiate the assumption. That is to say, the methods one selects in a classroom should be fairly good clues to what one wishes to achieve. If Bobbitt does have in mind some absolutes that must be "put over" in the class room, we shall find evidence of some sort of coercion, subterfuge, or undue concern for teaching predetermined conclusions correctly in his methodology.

In numerous instances Bobbitt protests against authoritarian education and insists on the other hand that the individual should be free to make his own decisions. However, we might well become suspicious when we read a phrase such as this: ". . . the states of mind to which words have been bonded, . . . ." (p. 136) There is in such a statement and its implications a striking resemblance to Thorndikian bond psychology. If Bobbitt means what he says here, we have good reason to doubt that he can plead for free play of intelligence. That is to say, bond psychology is in direct conflict with any position which advocates making independent decisions. Let us pursue this matter further.

First of all, we observe Bobbitt holds that the mind is passive to stimuli. For instance, he states,

> Because of the way his mind is molded by what is before his eyes, it is mentally wholesome for him to have a compelling exhibit of an all-pervasive reality that is faultless, definite, and implacably exact. (p. 285)

We recall that in another connection Bobbitt writes, "The generalizations arise automatically out of a sufficiency of particulars that are clear and significant." (p. 99) And elsewhere he states, "The remedy for controversy is to eliminate incompleteness in the series of impressions that persons get of things." (p. 101) That is, the impressions that come to the mind through the sense of vision mold the mind. Moreover, the understandings or possibly what may be called bonds, arise automatically by virtue of the number of particular stimuli that impress the mind. And when Bobbitt implies that the basis of controversy is the incompleteness of impressions, he must mean that stimuli make the same impressions upon all minds. Thus, stimuli are presumed to have absolute or fixed value and mind is presumed to be equally passive to all stimuli. The impact of any segment of objective reality is supposed to form the same mental bonds or associations on all perceiving minds. We must conclude, then, that Bobbitt's belief in specific educational objectives confirms a belief in the passivity of the mind. These absolute qualities of objective reality will result in an authoritarian approach to education. In fact, it would be difficult to anticipate any other since the learner is not presumed to be active in weighing consequences, but rather passive in the reception of sense impressions.

The assumption that reality is fixed and will make the same impressions on every perceiving mind becomes for Bobbitt as it is for Thorndike a basis for his teaching procedures. He too seems to believe that a repetitive experience with any reality should lead to a learning of that

reality. A complete experience with any reality should result in a complete knowing of that reality. Bobbitt writes,

> If a person's first impression of a thing is as true as it can be made, then he has made the best possible start toward a sound understanding of it. If the second impression that superposes itself upon the first is also true, then no trace of falsity is introduced by it, and the understanding remains sound. If the third, fourth, and all succeeding impressions correspond to the reality itself and introduce no error, then a true concept is gradually built up and matured. (p. 163)

We can infer from what Bobbitt states here that understanding is simply a bond or an association produced by a mutiplicity of similar impressions. And we note that the individual, undergoing this repetitive experience has no choice about the interpretation he would place upon the things sensed. Moreover, repetition here simply deepens the same impression. This notion is certainly not in keeping with concepts of experience from a relativistic point of view, the position Bobbitt endeavors to emulate in his phraseology. Actually, repetition should lead to deeper insights, a refinement of understanding, an improvement in facility. That is to say, each experience becomes reorganized by the learner in relation to previous experiences and as a result new insights or improvement of techniques developed. Of course, such a concept of experience requires the learner to be mentally alert, grasping for improved meanings in the situation experienced. Moreover he will be comparing and contrasting these meanings with those acquired previously. This is impossible if reality has fixed and independent meanings and the mind is simply passive to the impressions that reality makes upon it. Yet this is the heart of Bobbitt's proposals. That is, if the meaning of reality is fixed, the mind must be passive to it, otherwise, how

can there ever be any agreement about it?

That objective reality is presumed to retain a fixed stimulus value is good reason for teaching reality as it is. This accounts for Bobbitt's insistance upon teaching reality as it is presumed to be. We recall that Bobbitt states that the function of education is to " . . . set itself against error in every form." (p. 184) Elsewhere he writes,

> As far as can be managed, a child should never even know that there has been a wrong way until his knowledge and character have been formed on the right ways. The right is the normal, sanctioned by science. The wrong is the departure from it. One can know and hold to the normal without ever having heard of the departures. (p. 326)

Here we see how the assumption that reality is fixed leads to the conclusion that instruction should be "right answer" instruction. There is no question about reality, there is no question about one's necessary adaptation to it, and there is no need for admitting instruction of anything other than the "right answer." Thus absolutism leads to absolutistic methodology.

We observe here two rather serious consequences as far as education is concerned. In the first place, the learner is deprived of the privilege of "hearing the other side" or of considering alternates. Suppose some statistician, scientist or teacher has made a mistake about the nature of reality? The schools will perpetuate the errors of to-day's thinking. Do we need another Galileo to climb Pisa's tower to show us the error of blind acceptance of the supposedly "known"?

The second consequence is no less deleterious. By an absolutistic approach to teaching, by the persistent practice of teaching the "right ways," learners will be deprived of what they require most; namely,

opportunity for and guidance in problem-solving. This loss is one which will reflect not only on the efficiency of the individual, but also on society. Moreover, it will lead to a frame of mind quite pliable to the coercive teachings of charlatans and would-be kings. The protection we require to preserve a democratic society is to be found in individuals who are capable of critical thinking. The assurance we have of progressive refinement of both individuals and society is to be found in an ability to think independently and reflectively.

Some will assert that Bobbitt proposes the "right answer" technique of teaching for the child only in its formative period when he is too young to use good judgment. But who is to say when the child or adolescent is old enough to use his own judgment? Ignatious Loyola is said to have placed accountability at the age of seven, but experience shows us that most colleges and universities are unwilling to place very much faith in the competency of the judgment of the upper half of the population even after they have reached the ages of sixteen to twenty. When, then, shall we recognize individual responsibility for making judgments? Moreover, if we cannot trust children to make decisions on their levels of living, how can we trust adults to make decisions that affect to a great extent the welfare of others as well as their own well-being? Truly, if we desire an adult society capable of independent learning, capable and willing to attack problems, we must begin with the small child. Bobbitt is correct in his assumption that we must introduce right ways of living during the so-called formative years of a child's life, but those right ways must not be absolutes, but rather a form of problem-solving geared to the reflective thinking level of

the learner. Choices must be made possible even here.

But let us continue with Bobbitt. He writes,

> . . . as erroneous impressions later come, he can discern their falsity in their incongruity. The mind rejects them so automatically and instantly that they are given no chance to confuse understanding. Truth immunizes against error and deprives it of power for harm; but to do so, the truth must be unadulterated and unconfused. (pp. 163-164)

Herein lies a serious criticism of the absolutistic position. In the light of the mechanistic bond-formation process Bobbitt describes, the rejection of an incongruous impression must be by an automatic rather than a reflective process. That Bobbitt uses the terms "impression" and "automatic" in this connection implies that he puts the rejection on a mechanistic level. But even if one should presume the rejection to be on a higher level, it will be non-the-less automatic for alternate and seemingly confusing ideas will be rejected because they are different from those already taught authoritatively as "right." Thus, an absolutistic frame of reference and teaching technique accustoms the learner to expect only one right answer, usually the one presented by a teacher or parent on "good authority." Moreover, the absolutistic approach does not acquaint the learner with the necessity of considering other points of view or alternate solutions. Hence he will reject a new idea because it is incongrous or confusing in the light of authoritatively given answers, and will not be in a frame of mind to consider another answer simply because he already has one. We repeat, then, that in the first place, on the basis of bond psychology it is unwise to present alternate or "confusing" impressions. Whether that be true or false is beside the point just now. What is important is that the teaching technique based on such an assumption leads to the same prac-

tical results. That is to say, the absolutistic or authoritarian "right answer" technique of teaching tends to close the minds of the learners to any but authoritatively presented ideas, the "right-answers."

There is another point involved in this "right-answer" technique. When we read that "One can know and hold to the normal without ever having heard of the departures," (p. 326) we observe that Bobbitt has no intention of being fair to other points of view. Of course, he has the mistaken impression that there will be no disagreement about matters if every one has equally complete experiences. Let us suppose, for the moment, that this might be true. Just now there is much disagreement, even in the so-called exact sciences, and each person holds his interpretation of reality is most right (he must believe this or he would not accept the idea). Hence each teacher will present his own conceptions of reality without admitting alternate possibilities. This practice is in direct conflict with the democratic ideal. In a democracy, each individual has a right to know, and must know, a number of reasonable solutions to his problems before he can make his own decisions. How else can he decide? A single answer requires no choice but rather an adoption. That these ideas may be confusing is beside the point. They are important for the individual to know. In fact, the relativistic point of view holds that conflicting and confusing ideas are the bases for motivating reflective thinking and for mental growth. Be that as it may, in a democracy individuals must have before them all the data necessary in making decisions regarding institutions and modes of behavior with which the individual and his society is concern-

ed. Moreover, we repeat that if a democracy requires a competent citizenry capable of harmonizing conflicting points of view, we must insist upon intellectual honesty in the class room. That is, the teacher must be willing to submit a variety of solutions to problems which may not occur to the learners and must be willing to permit the learners to accept conclusions other than her own.

By now it appears quite obvious that the "right-answer" approach to education is basically designed to make the learners willing listeners to the voice of authority. And, presumably, the measure of success in this technique will be found in how automatic are the right responses and how automatic are the rejections of other impressions. Life's activities are utilized as a means of making right impressions in the order of frequency life may require them. That is to say, the frequency of an experience in living to-day's life is a measure of how much a bond will be required. Bobbitt has introduced life into the curriculum not for purposes of raising problems, but to assure the proper control of repetitive experience.

Let us pursue this topic just a little further. Bobbitt writes,

> For a book of travels to be effective it must be long enough to provide a similar abundance and repetitiousness of experiences with concrete things. (p. 123)

By this he implies that not only the experience, but also its recall deepens impressions. But the thing to note here is that a criterion for a book is the amount of repetitive experience it furnishes. The book is not evaluated in terms of the critical thinking it provokes, nor the guidance it furnishes in the solving of problems. This affords us just another specific example of Bobbitt's notion that learning is the gathering of repetitious sense impressions, and that in the learn-

ing process the learner is passive to the impact of internal and external stimuli upon the senses.

Pertaining to the vividness of impressions, Bobbitt writes, "The vividness of impressions is determined by . . . (2) the feeling accompaniment of the impression . . . ." (p. 88) This feeling accompaniment is the same thing that Watson and Thorndike mention in one manner or another as a bond strengthening reward. It is either a chance or a planned-for feeling state that somehow becomes associated with a particular impression, and tends to attach itself therewith, thus strengthening a bond and tending to facilitate that response. It is true that Bobbitt frequently mentions that the reward should be intrinsic to the activity, but he does not insist that it be so. As Bobbitt describes it, any feeling accompaniment associated with an impression will determine the degree of its vividness. He does not require that the pleasure of achieving a goal be the reward in and of itself. Consequently we must assume that Bobbitt's reason for wanting the feeling state to be evoked by the impression itself is to make it more automatic. That is, if a certain situation not only strengthens an impression, but also evokes feeling states, the teacher or parent will not be required to furnish rewards artificially. Moreover, after the individual is no longer under the supervision of an instructor, the strengthening of the bond and the continuance of an activity will persist. There is no assumption more vicious than this, in that it tends to crystallize behavior and perpetuates blind responses through an association of feeling states with impressions.

But some one again interrupts to state that this interpretation of

Bobbitt is unfair. In response, let us cite Bobbitt with reference to play activities.

> But the purpose of play is not the gratification of the feelings. Its purpose is to condition the growth of needful structures and functions. The pleasure is only a lure that nature uses to draw each of her creatures into action so that he may get the practice necessary for the growth of his powers. (p. 36)

In other words, nature is presumed to have implanted a potential rewarder which is to strengthen bonds without regard to an individual's purposes. In fact, the individual is pictured as being more or less helpless to the strengthening of bonds through these feeling states. We see another variation of this application of feeling states to the formative process with regard to communication. Bobbitt writes, "And perhaps most frequent of all is the vividness produced when speech relating to it is warmed, as in conversation, with the glow of the social emotions." (p. 247) In other words the use of emotional coloring to make vivid an impression is both possible and permissible.

As presented here, a concept need not "stand on its own feet." The teacher desiring to "put it over" will associate it with emotional feeling states. This is precisely what propagandists attempt to do by way of mental coercion. Moreover, this is precisely what we should guard against in our educational procedure. If any mode of conduct or any idea is acceptable, it must be able to stand the test of experience before it is accepted. And if thus tested, it requires no emotional loading to "put it over." Obviously Bobbitt's use of the concept of feeling states is to furnish rewards for activities in order to fix

firmly in the mind of the passive individual what is deemed "right" or "good." In so doing, he makes it very clear that he accepts an authoritarian position in education, and believes that certain "right answers" may be imposed authoritatively. Moreover, he justifies their imposition by evoking feeling states rather than dialectics.

We must conclude, then, that Bobbitt's proposed methodology is quite in keeping with the realistic, authoritarian position ascribed to him. By a mechanistic arrangement of stimuli and extrinsic rewards or extrinsically aroused feeling states he hopes to mold the learner into prescribed patterns of thinking and good conduct. The heart of Bobbitt's methodology is to get the individual to do what is predetermined as "right." The assumption, of course, is "What a person does makes him what he is." (p. 21)

The key to Bobbitt's position that a child can be molded is to be found in the following statement:

> Beginning early enough, a person can be shaped by his experiences into forms that lie poles apart. (p. 21)

When he writes "Beginning early enough" he implies beginning before the child has too much to say about it. This is very much like the proposition that Watson presents in suggesting that he can fashion children to be the kinds of persons he wishes them to be. The learner is assumed to be intellectually passive to both repetitious experiences and manipulated feeling states. The individual is not accountable, nor can he be held accountable for what he does, for he is not presumed to make his own decisions with foresight of consequences. It would be difficult to distinguish between Bobbitt and Watson in this regard.

We find in Bobbitt, then, an example of absolutism in "modern" dress. The teaching of absolutes is ultimately the purpose of educa-

tion and absolutes are the subject-matter of education. An absolutistic or authoritarian technique is its methodology.

E. Comparison of Bobbitt and Thorndike.

Thorndike's Human Nature and the Social Order contains considerable reference to teaching techniques, but less material which applies to the nature of subject-matter. However, we will find sufficient material for this purpose of comparing his position with that of Bobbitt. We observe, first of all, that Throndike agrees with Bobbitt that education should be a process of teaching "right answers." He writes,

> The ideal government, as in education and industry, is never to let mistakes occur. This is easy to say but hard to do even in so indifferent and settled matter as a few school boys learning to read Latin . . . . The teachers of the past who heard pupils recite and corrected their mistakes are being replaced by teachers who practice their pupils in errorless work. (p. 831)

Here we have the key to ~~both~~ Thorndike's conception of both subject-matter and methodology. The basic assumption is that "right answers" can be ascertained in advance. And, once having found the "right answers," the teaching of them is simply a process of imposition. It is not clear just how these "right answers" are acquired, but it must be presumed that curriculum experts and teachers will have access to them.

It follows that if right answers are to be imposed, teaching will be a matter of drill in the current responses. Thorndike writes, " . . . every error is costly." (p. 831) He suggests that an educational ideal is, " . . . never to let mistakes occur." (p. 831) Subject-matter must of necessity be the "right answers," which are pre-determined as necessary to impose upon the learners, and if "right

answers" are known, the selection of teaching techniques is largely a matter of selecting the most effective devices for imposing the predetermined essentials. Imposition is in the last analysis the technique to be applied. This position parallels that of Bobbitt very closely as he writes,

> As far as can be managed, a child should never even know that there has been a wrong way until after his knowledge and character have been formed on the right ways. (p. 326)

In this respect, both Bobbitt and Thorndike are agreed that there are certain things which are essential, and which they are willing to impose upon the learner. We conclude, then, that both of them are absolutistic with regard to some aspects of subject-matter, and that they are both willing to impose these absolutes upon the learner in an authoritarian manner.

Moreover, while the democratic conception of teaching is one of considering alternate hypotheses and evaluating them in terms of consequences, we recall that Bobbitt does not believe in confusing the learner with alternate answers until a supposedly right one has been learned. This is implied in the previously cited reference to teaching the right answers. Elsewhere he writes, "The road to truth is made difficult whenever it begins with error." (p. 163) He means here that established truth alone should be presented, and that even for purposes of comparison alternate hypotheses are out of place in the teaching program. Bobbitt then proposes that incongruous and confusing impressions will be rejected automatically if only the correct impression of anything is given often enough. (p. 164) By way of comparison, we read in Thorndike's Human Nature and the Social Order:

> If the Einstein equations as finally transmuted, distorted and mutilated in the popular mind became a belief that "the surest things in science may be insecure; . . . they would better have been left to the sole possession of the mathematicians and physicists who can apply them properly." (pp. 426-427)

Thus we repeat, the absolutistic position held by both Bobbitt and Thorndike necessitate a practice of presenting only the approved answers to any solution, and make impractical the intellectually honest and democratically sound practice of presenting alternate hypotheses.

As to specific teaching techniques, it has already been noted that both Thorndike and Bobbitt conform to the realistic position of bond formation, and subtly introduce the vitalistic pleasure-pain principle as a reinforcer of the bonds. For instance, Thorndike writes that, "The mere operation of a tendency strengthens it somewhat . . . ." (p. 958) And in another place he writes,

> "Mere frequency of occurrence is, however a relatively weak strengthener of connections. A more important factor is their accompaniments or immediate after-effects." (p. 14)

Using a little different phraseology, but implying the same thing, Bobbitt writes,

> The things that are thus greatly emotionalized are the ones that are seen most vividly and, therefore, acquire the greatest depth and permanency of impression. They are the ones toward which a person's thought tends to turn, with the result that they are frequently in mind. This repetition deepens more and more both the cognitive and emotional aspects. (p. 103)

In another place he writes in a similar vein regarding words and the realities they represent. We read,

> His basic need is, not to know the words, got through talk or books, but to know the realities themselves from impressions got from intimate and interesting contacts with them through years of repetitious impression form-

ing. (p. 130)

These two references from Bobbitt's Curriculum for Modern Education, are essentially a rephrasing of Thorndike's laws of repetition and effect, wherein practice and pleasant feeling states strengthen bonds. Thus, in this respect, Bobbitt and Thorndike are agreed that learning is a process of bond formation through repetition and an arrangement of the feeling states. Thorndike could heartily agree with Bobbitt that after all "The pleasure is only a lure . . . ." (p. 36) device by which an individual's life can be arranged for him by forces of nature, by circumstances, and by teachers, parents, et cetera.

In this respect, both Thorndike and Bobbitt represent a deterministic position which parallels closely that of Watson. Thorndike states that "By sufficient skill any response of which a person is capable can conceivably be attached to any stimulus to which he is sensitive." (pp. 19-20) Bobbitt does not state this position quite so baldly, but he arrives at the same conclusion. For instance, he writes that "The objective of education is a continuity of right doing." (p. 19) He follows with the statement that "What a person does makes him what he is." (p. 21) And then he concludes, "Beginning early enough, a person can be shaped by his experiences into forms that lie poles apart." (p. 21) Since the teacher or parent must decide for the learner what are the necessary realities and right behavior patterns, the teacher or parent is presumed by Bobbitt to mold the child into the type of responding individual desired. Essentially, Bobbitt and Thorndike are in agreement that the child must be intellectually passive to the imposition of right ways of living. Moreover, we must conclude that for both Bobbitt and Thorndike the learner does not

choose what is best in terms of consequences. Presumably the learner is not conscious of consequences, but rather of accompanying feeling states arranged by the teacher.

By now, it is quite clear that the differences between Thorndike's and Bobbitt's conceptions of learning are negligible. Both propose "right answer" teaching. Both seem agreed that learning is a mechanistic process of stamping in bonds between stimuli and responses. Both assume that the learner is passive and possesses a plastic mind which can be passively impressed. Feeling-states are not necessarily associated with goals or achievement of ends. They are simply connections which can be manipulated objectively at will to strengthen other bonds. Just how they do this is not clear.

Wherein do Bobbitt and Thorndike differ? There are several differences. Bobbitt does not stress control of the minute details quite so much as does Thorndike. Thorndike would study each minute detail of a required response and would attempt to stamp in each specific reflex arc required for that total response. To this end he introduces his system of rewards and punishments to help matters along. Bobbitt is satisfied that practical life activities will automatically stamp in the necessary bonds to the degree that they will be required. As situations change, new bonds will be automatically formed, and old ones will become inoperative through disuse. Bobbitt also believes that situations are often self-rewarding. But he is not opposed to the arrangement of rewards to guarantee proper responses.

The function of parents and teachers outlined by Bobbitt is to control experiences so that a livable "good life" is lived and thus learned by the individual. Thorndike tends to stress the ideal "good life."

Bobbitt holds that the mediocre can live in a measure of the "good life," but Thorndike appears to hold little hope for the mediocre. Hence, Bobbitt stresses education for all, and Thorndike stresses selective breeding in order to improve the human strain.

In general, the differences between Bobbitt and Thorndike are superficial ones. In neither case is the learner considered to be mentally active in formulating and testing hypotheses, and in neither case is it possible for the learner to reorganize his experiences with a view toward developing new insights. Learning to both Bobbitt and Thorndike is a passive-response rather than an active and insightful or a reflective problem-solving process. If realism has no better program to offer than this, it is not suited for education in a democracy.

F. Relativism in Contrast to Realism.

At numerous points in this study, mention has been made of specific reasons why realism is inadequate for education in a democracy. By way of contrast it has been pointed out that relativism is more compatible. We have noted the undemocratic implications of a realistic educational program. At the risk of being repetitious, let us summarize a relativistic point of view with regard to items mentioned in this chapter.

First of all, we should notice that a democratic educational program may not appear different from one proposed by Bobbitt by way of subject-matter offerings. That is, if Bobbitt's program is constructed about the life activities of the learners it will undoubtedly include such subjects as spelling, arithmetic, geography, et cetera. Similarly, a relativistic program may well be expected to touch upon the same or nearly the same subjects. We have already observed that both Thorndike

and Bobbitt would teach subject-matter as "right answers" or conclusions predetermined by the teacher. Bobbitt's thesis is that these subjects should be taught at the time when the learner will have immediate use for them. The position held by relativists is that subject-matter should not be a series of predetermined conclusions taught to meet immediate or future needs, but that it should be a series of problem-solving situations in the areas in which the school may guide problem-solving individuals. Even if the so-called known "right answers" are obviously the best, the learner must arrive at this conclusion himself. In this connection Bayles writes,

> A basic principle of relativity psychology is that we can only perceive and comprehend things as we see them related to (or contrasted with) other things; we cannot conceive or comprehend them as things-in-themselves, in isolation from other things. Quite probably, too, there is no ultimately right answer to any question. The right answer at a given time is only the best of those available at the time. If we are concerned with developing independent thinkers, we must train pupils to choose the best from the many, instead of merely coming to know one in isolation.[8]

If the above proposition is true, then subject matter per se has no value unless it is applied to the problem at hand. And the only means whereby this same material can be used again is through a process of reorganization and incorporation with other data in terms of consequences to another plan of action.

There is another significant application of relativity to subject matter implied in the above paragraph; namely, subject matter is not so fixed and settled that teachers may operate in the assumed capacity

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8. Ernest E. Bayles, "The Relativity Principle as Applied to Teaching," University of Kansas Bulletin of Education, Vol. IV, No. 4, p. 12.

of gods dispensing oracles. That is to say, in the democratic process of education there is the assumption that no person or persons know the ultimate, and that only by a process of progressive postulation, testing, and redefining of goals can progress be made. This means that no principle, datum, or idea may be taught with a view toward training pupils to live in fixed patterns of conduct dominated by fixed loyalties. The following expresses this idea:

> The heart of preparation of a prospective citizen for democratic citizenship should be the promotion of competence in the progressive and continuous reconstruction of points of view and courses of action; in short, patterns for living . . . . We have no way of knowing with precision what our students should believe and how they should act twenty-five or fifty years hence.
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> . . Thus, a teacher in a democracy is not justified in advocating any particular view, belief, or course of action--or even studying it to the exclusion of others. . . .

In the light of the foregoing, relativists have directed considerable attention to the learning process. They define it as " . . . a process of developing insight, [sensing relationships] . . . "[10] This implies an active intellectual process in which the learner attacks problematic situations. He proceeds somewhat along this line: there is the problem-identification state followed by a setting up of alternate hypotheses, the gathering of data to test the hypotheses, and finally the formulation of conclusions.[11]

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9. Ernest E. Bayles, "Obligations of Teaching in a Democracy," Educational Administration and Supervision, April 1939, pp. 252-263.
10. Bayles, "The Relativity Principle as Applied to Education," University of Kansas Bulletin of Education, Vol. IV, No. 4, p. 10
11. Ibid, pp. 10-12

These conclusions are both insights and bases for further action. But they are not classified as final conclusions. Rather, they are tentative working or workable hypotheses.

If a relativistic conception of learning is accepted, there can be no "right answer" teaching. Bayles writes: "Moreover, a pupil's comprehension of a given matter is far more adequate, and perhaps more permanent, if he understands wrong answers and why they are wrong . . . ."[12] "Wrong answers" are important to learning. They are the alternative hypotheses which seem less satisfactory to the individual who has compared, contrasted and tested reasonable solutions to a problem. In this connection Bayles writes,

> A reflective study which follows the setting of a problem implies formulation and consideration of alternate answers to the question raised. The formulation of various possible answers corresponds to the formulation of hypotheses in scientific thinking. One-answer (right-answer) teaching seldom achieves reflection-level thinking on the part of the class. . . .[13]

With regard to specific course requirements, Bayles writes,

> Reading and other forms of outside study are as important for refective studies as for recitational precedure, but the study is carried on in order to answer pupils' questions, rather than to satisfy requirements of a teacher.[14]

It follows, then, that although the subject matter topics of a relativist and a realistic absolutist may appear to be the same, they differ greatly because their conceptions of subject-matter and inter-

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12. Bayles, "The Relativity Principle as Applied to Teaching," University of Kansas Bulletin of Education, Vol. IV, No. 4, p. 12.
13. Ibid, p. 11
14. Ibid, p. 11

pretations of the learning process are not the same. For an absolutist, subject-matter is a list of data or predetermined conclusions to be impressed upon the learner. For a relativist subject matter is a series of problems to be solved and data are simply instrumental to learning rather than items to be learned. By this means the pupil becomes, ". . . an independent learner while developing an enhanced and more harmonic outlook on life."[15] This is why relativists cannot properly set up a hierarchy of subject matter as absolutely essential to the learner. For certain pupils business arithmetic, for example, may contribute as much to the development of independent learning, and to an enhanced and harmonized outlook on life as calculus does for others.

If we accept the proposition that learning is something more than the acquisition of subject-matter, we have little difficulty in denying that learning is simply the acquisition of specific neural connections, organized reflexes, or fixed-habit patterns. If we accept the proposition that learning is the development of ability to solve problems, we must reject the drill concept of education which assumes the learner to be passive. A learner made susceptible to only stimuli and extrinsic rewards is not solving problems in terms of consequences. Neither is he expected to act with foresight of consequences. On the other hand, from a relativistic point of view the learner progresses as he becomes more proficient in solving problems and predicting consequences. The discovery of relationships is finding out what will

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15. Ibid, p. 11

happen if a particular plan of action is followed. To grant that the individual learns through a process of weighing the consequences is to deny the validity of the reflex-arc concept of learning.

If learning is problem solving, the learner cannot be passive. The one-answer technique presumes that someone else has solved the problem, and that the learner must be submitted to a process of "use and disuse" and "reward and punishment" in order that the right answer will be stamped in and the wrong one stamped out. Bayles writes:

> Yet if a pupil is to be trained to think for himself, a seeming necessity in democratic education, his conclusions will have to be those which grow out of this thinking and cannot be forced into pre-ordained molds. 16.

The learning process, according to a relativist, is one in which the student is reflectively active in discovering relationships which have bearing on the goals he has set for himself. The situation which gives rise to learning is a problem. The solution comes only as a result of an aggressive attack upon the problem. To solve it, the learner canvasses the probable solutions, tests them, and finally formulates his own conclusion. The point is, the individual is active in the learning situation. Each learning situation is different. The insights previously acquired must be evaluated to see if they apply to the new situation, and to discover the extent to which they apply. Then, the solution of the problem is followed by a reflective phase in which the individual compares consequences with predictions. New insights are then incorporated with others, and there is in conse-

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16. Ibid, p. 9

quence a reorganization of experience. In order to postulate the best possible plan of action, and in order to evaluate progress and reorganize experience, the individual must of necessity be mentally alert and active. Somehow realists fail to grasp this and are satisfied to presume that most efficient learning takes place by a passive receptivity on the part of the individual.

But if learning takes place through problem-solving, what is the value of repetition? We have seen that realists hold that repetition tends to deepen an impression upon the plastic nervous system. In this respect, it is quite clear that the first impression must be correct, and that every impression following the first should be identical in order to strengthen or deepen the first. However, relativists hold that repetition is a goal-insight activity leading to refinement. One does not practice to repeat the first performance with greater facility, but rather in order to improve upon the first and every performance following. That is, even in the routine practice of acquiring a simple manipulative skill, the learner sets his goal, and then reorganizes, or builds upon his experience.

It follows, that pleasure can be derived from one's evaluation of progress. This is precisely a relativistic interpretation of rewards. There is no need for the artifical arrangement of rewards. The learner who is conscious of his goal and who plans to achieve it, receives a genuine satisfaction to the extent that the goal is achieved or that insights are acquired. In the situation where a goal is not achieved, a learner who can reflect upon his procedure and can determine the reasons for his failure acquires greater understanding, and therewith receives a degree of pleasure in the newly acquired insight. Then, with

greater confidence and better understanding, the learner sets out to attack the problem with greater zest.

Such is a relativistic conception of subject-matter and the learning process. We repeat, in a society where the individual must make his own decisions and where he must be aware of the consequences, and in a world where there is seldom one ultimately correct solution to problematic situations, a relativistic outlook is most compatible. By the same token, an absolutistic interpretation of human nature, reality, and the educative process is least acceptable. We must conclude, that Bobbitt's absolutistic and authoritarian conception of subject-matter and the educative process, and Thorndike's so far as it applies, is not suited to a democratic outlook on life.

# CHAPTER VI

## SUMMARY AND CONCLUSIONS REGARDING THE ADEQUACY OF REALISM FOR DEMOCRACY

In the schools of our nation it is becoming more and more obvious that the acceptance of any practice implies an acceptance of its underlying assumptions. In other words, every educational practice reflects a point of view. Before it is adopted or applied, its objectives should be ascertained. Bode points out that the assumptions underlying any absolutism are essentially non-democratic, and that the practices evolving from absolutisms will not be of use in achieving democratic aims. But we observe that realistic absolutists such as Breed, Thorndike, Bobbitt, and others, do not seem to accept this proposition as being true. In fact, Breed implies that realism is more democratic than are other positions. Therefore, in the light of the many current publications representing a realistic point of view, it would be well to strip a few of the most representative of these of their "modern verbal dress" and to re-evaluate their assumptions and implications with the problem of democracy in mind.

In this connection, we are confronted with several questions: Is realism absolutistic and if so, does realism, as an absolutism, deprive society of individuals who are capable of participating in a progressive and refining society? In order to make this study specific, Thorndike's Human Nature and the Social Order, and Bobbitt's The Curriculum for Modern Education were selected as representative

realistic texts, the former treating mainly the problems of human nature and society, and the latter the matter of educational subject-matter. We note that these texts are not treatises on philosophy but are rather specific proposals with regard to educational and social practices.

First of all, we observe that Thorndike is committed to specific absolutes. For example, he attributes the elements of objective reality with fixity and independence of meaning. Objective reality, then, is for him an absolute. In a similar manner, human nature is presumed by Thorndike to have fixed elements (wants and bonds). In this manner he regards human nature as an absolute also. In other words, Thorndike implies that we are to accept the reality of the situation and the reality of human nature as fixed and settled matters.

Thorndike reflects his absolutistic bias markedly in his analysis of human nature. He assumes that human nature can be disclosed by reducing the individual into his constituent parts or elements, as though these parts or elements have independent and fixed meanings. Consequently, he describes human nature as an accumulation of stimulus-response bonds and elemental wants or drives. We observe, further, that the human elements (bonds and wants) are regarded as being sensitive to specific elements constituting the situation. Thus, particular, independent, or fixed elements of a situation are presumed to evoke specific modes of conduct. Personal interpretation of a situation in the light of accumulated and reorganized experience is ruled out. Moreover, the individual is regarded as passive to the elements of the

situation into which he has been placed by chance. J. B. Watson postulates a position similar to this and frankly designates it as "deterministic." That is to say, Watson holds that the individual is passive to circumstances and innate neural connections. Thorndike pretends to allow for individual choice and initiative, but a careful analysis of his position as applied to human motivation, learning, and social relations, forces one to conclude that he is no less deterministic. In other words, realism, as represented by Thorndike, is absolutistic, and as such, does not allow for individual freedom of choice. It is logical to presume that any educational program based upon this philosophy will not provide for a reflection upon consequences, for such a program would be deemed "unrealistic" and "psychologically unsound" or inexpedient.

We find a good example of what realistic absolutists expect to do by way of education in Thorndike's text. First of all, we note that learning is accounted for mainly in terms of modified and reorganized stimulus-response bonds and native wants. The acquisition of entirely new S-R bonds is granted by Thorndike, but apparently is not anticipated to a great extent. But whether learning be the acquisition of new bonds or simply a reorganization of those already present, in either case the individual is placed in a passive position. Repetition and reward determine what connections will be formed and how firmly they will become bonded together. Consequently, the individual is not self-determining with regard to any one act nor with regard to the constellation of S-R bonds which are to be formed. Thorndike's assertion that "by hook or by crook" a desirable act may be evoked and may be

bonded to a situation is suggestive of his determinism applied to education. A consideration of consequences does not determine what is learned in this instance, but rather the blind repetition of an act and the accompanying but not necessarily consequent feeling-states. Education as described by Thorndike may very well be described as seduction.

When we describe realism as absolutistic, we imply that there are some things which the individual will not readily re-evaluate since they are presumed to be settled or fixed once and for all. Democracy is founded upon the principle that no one has access to anything so settled. Moréover, since democracy is a means of solving social problems, society must not be hampered by any "sacred cows." Nothing should be regarded as so fixed and settled that it will not bear further inquiry. The individual and society must be constantly on the alert for errors, must be ready to achieve new insights about things be they ever so familiar, and must be ready to project into the future working propositions based on honestly arrived at conclusions. In other words, every member of a democratic society must be willing to think about all things that concern him. An absolutistic society does not intend this shall be so, for the re-examination of the absolutes is to an absolutist either impudence, a waste of time and energy, or a sacrilege.

Thorndike appears to hold that time spent in discussing "settled matters" is wasted time in the learning process. The learner is required simply to accept passively what the experts have predetermined as good and acceptable. The learner's responsibility is to trust the experts. All that is required is a passivity to the controlled situ-

ation through which a teacher may conceivably attach any response to any stimulus. But we observe that learning does not take place in this manner. Moreover, there is evidence of harm which comes from accepting passively and unquestioningly the conclusions of others. The application of this methodology makes of the individual fertile ground for the cultivation of authoritarianism. The individual is not made aware of the consequences of his action but rather of the approval of the trusted experts. What more could any dictator ask?

That Thorndike's proposals are compatible to an authoritarian society is further verified by his treatment of social problems. In the first place, he assumes that many people, probably most, are not competent to make their own decisions, especially in matters pertaining to social institutions. On the other hand, he points out that there is a small group represented by industrial, financial, and scientific leaders who are especially trustworthy both on the basis of capability and honesty. Thorndike's dangerous conclusion that the capable are the good, leads him to suggest further that the capable should be allowed freedom of action in proportion to their ability. He assumes on the one hand that they will contribute most if they are unhampered. On the other hand he assumes that if they are unrestrained, their conduct will yield a pattern which can be studied and crystallized for purposes of teaching the less good and able. The conduct of the so-called good and able is given the status of an absolute which is to be imposed upon the masses.

At this point we observe two aspects of Thorndike's absolutism reflected in his proposals for society. On the one hand, he assumes

that the innate nature of the able is self-directive and good. That is, the able are presumed to have within themselves the motivation for good conduct. So certain is Thorndike of this, that the conduct of the able is accepted as a criterion for the conduct of others. Moreover, Thorndike also assumes that a knowledge of what is good is possessed by the able. Therefore, the judgment of the able or the experts is to be trusted. Thus, both by virtue of apperception and innate nature, the able are presumed to have access to and to be reflectors of the good. It is for this reason that he argues, since the able are the producers of capital goods, the accumulators of economic wealth, and the discoverors of truth, these activities must be essentially good. Moreover, carrying this line of argument further, Thorndike informs us that we should tolerate anything the good and able do, and accede to their wishes since what they desire will benefit us all. Surely, this is not a picture of democracy in which individuals plan and work together for mutual benefit, and in which individuals become more competent through their active participation in governing the agencies which touch upon their lives.

On the surface Thorndike's social program appears to be dynamic in that it provides for mechanisms which will assure society's continuance and a measure of improvement. However, it is essentially a static or planned society in that it has a fixed point of reference; namely, objective reality. The reality of human nature is especially emphasized in this connection. Human nature, as it is, especially the nature of the "good and able" is the focal point about which Thorndike's society

would be built. Society becomes committed to the life activities of this select group, and as the activities of the more able become more known, the commitments will beoome more specific. Such a society is absolutistic in at least two respects; namely, in the unquestioning acceptance of so-called good and able human nature, and in the imposition of the life activities of this group upon the masses. Such a society is not concerned with progressive refinement, but rather with the implementation of the supposedly known. The conduct of the "good and able" is the "sacred cow" of this society, and toward it no one should attempt to direct the finger of inquiry.

A related point at which we observe that the Thorndikian ideal for society is absolutistic, is with regard to the problem of universal participation in the resolution of social problems. A democratic order is built on faith in human intelligence. No one individual must be regarded as being so gifted that he alone can decide what is good for the others. Moreover, each individual must have the opportunity for further development in competency by actually tackling the problems of state. The most beneficent dictatorship is inadequate in that it fails at this point for it develops dependency rather than competency. Thorndike, by suggesting that the good and able take over the reins of government, errs no less.

We must conclude, then, that with reference to two criteria for a democracy - that it is a planning rather than a planned society, and that it is built on a universal faith in human intelligence rather than simply the judgment of experts - Thorndike's proposals for society are unacceptable. Except for the specific techniques and devices enumerated,

Thorndike's recommendations bear a striking resemblance to the structural outlines of any authoritarian society. Moreover, we must bear in mind that these recommendations are simply the logical applications of absolutistic assumptions. Grant that certain absolutes can be ascertained, society must trust the experts to discover, clarify, and implement them. On the other hand, deny that any one person or group of persons can decide what our absolutes should be, then we must of necessity have a democratic problem-solving society in which each member is entrusted and obligated to share responsibility in its planning, operation, and bearing of consequences. It will bear repeating, because Thorndike distrusts the judgment of the masses, he recommends social devices which will deprive the less able of a means for achieving greater competency. Thus, Thorndike argues for an authoritarian society in which the dependents become more dependent and those susceptible to propaganda become more susceptible.

Thorndike justifies his authoritarian approach on the basis of its scientific appeal. One might designate it as "scientific management." The expert is presumed to be capable of deciding what is the "right answer" to a social problem. The dutiful citizen is expected to accept this "right answer" without further deliberation or delay. In this respect, Thorndike's social program parallels his educational psychology of attaching the right bonds to recurring stimuli. The function of the school is to "put over" the social dogma and impress upon the neural systems of the learners acceptable mores.

At this point we note that Franklin Bobbitt, who is also a real-

istic absolutist, has much to say regarding the function of education. He informs us that we must study life activities, especially those of the more gifted individuals. These activities are to become the subject-matter or the "right answers" which the schools must "put over." Bobbitt assumes that the life activities of the individual spring from inherent drives or wants and in compliance with the demands of the situation. The underlying assumption is that if an activity occurs in measurable frequency, it must be legitimate and acceptable. Stated otherwise, Bobbitt holds that an activity or an institution will cease to exist if it does not serve a legitimate human need. Consequently, the presence of an activity or an institution is its own justification. And its occurrence is justification for its inclusion in the educational program of the school as subject-matter. Out of this line of reasoning emerges the statement, "Teach people to do better what they are going to do anyhow."

One can readily see how Bobbitt's position, if applied, would perpetuate the errors of our time. It tends to crystallize <u>what is as it is</u> and fails to draw attention to <u>what should be</u>. This is especially true when "right-answer" pedagogy is applied. Bobbitt cautions the educator against exposing the learner to alternate or confusing solutions to perplexing problems. By this means he closes the door to inquiry regarding the justification of "acceptable" activities. If the learner is taught authoritatively one and only one solution to any problem, he will not only accept the one answer as God-given, but will also be less critical of any authoritatively imposed social program. Throttling the channels of communication, in this respect, deprives

the learner not only of information he should have in solving the problem on hand, but also deprives him of opportunity to develop a critical frame of mind and capacity for harmonizing conflicts.

On the surface Bobbitt does allow for individual initiative in the solution of one's problems, but the techniques he proposes do not provide for it. Moreover, a detailed examination of Bobbitt's position will disclose that this initiative is permitted mainly for the more able or select individuals. And when we recall that Bobbitt parallels Thorndike closely in holding that the able are more or less subject to their good impulses, we find that there is no actual allowance for individual initiative. Bobbitt simply places implacable faith in the deus ex machina presumed to be governing the more competent. He takes for granted that some higher power or authority will guarantee the actions of the more able.

The life that the more capable live is accepted by Bobbitt as the "good life." Examples of it are presumably found in our more select communities and neighborhoods. He would suggest that this life be studied and made the subject-matter of the schools to be imposed upon the learner. By repetition and pleasant awards, this life is to become impressed upon the learner. Here, again, the learner is not deemed qualified to act with foresight of consequences, but merely in terms of sense impressions and implanted stimulus-response patterns. We have already noted that in a true democracy a learning situation is one in which alternate solutions to problems may be evaluated in terms of consequences. Moreover, it must be noted that in a changing world, individuals must be trained not only to meet change, but also to con-

tribute to change. Individuals trained to accept one predetermined set of solutions are incompetent to face entirely new situations, and cannot contribute fully to a reconstruction of the situation or society.

Realists may well argue that for the immediate future we aim high if we can establish for the less competent a way of life equivalent to that which the more competent enjoy. But let us recall first of all that the way of life the competent enjoy is a by-product of the economic status they enjoy. Activities surrounding their situation are symptomatic of their economic well-being. The less desirable activities manifested by the less competent are just as symptomatic of their economic insecurity. When we train in terms of these secondary aspects of life, we neglect the all-important factor of assisting both the poor and the rich, the competent and incompetent, to become more adequate in solving all types of problems facing them. If we could succeed in developing learners capable of matching wits with social problems, vested interests, dogma, and prejudice, we would surpass anything that the "good and able" have been able to do so far. A democratic society needs above all things, universal competency in meeting and solving problems. It requires that all of its members participate in social reformation rather than in a realistic conformation. However, this limited study of realism leads one to the conclusion that a realistic absolutism requires above all, a passive and uncritical conformation. For this reason, if for no other, one must insist that realism is inadequate for a democratic society.

Stated simply, the problem of the adequacy of realistic absolu-

tism for a democracy is centered in the faith that can be placed upon human intelligence. Democracy is founded on a faith in human intelligence, that each individual must solve for himself his own problems, that each one must have a voice in solving social problems, and that no one nor any group can decide for others what they should do. This faith implies that a free play of intelligence upon current problems will yield the most in terms of social refinement, increased individual competency, and greater harmonization of outlook on life. This faith requires, moreover, that the channels of communication and exchange of thought will be kept open, uninterrupted, and unthrottled. It implies that individuals will be free to deliberate on all problems with the assurance that no information is being kept from them. It implies a community of interest through a community of understanding. Herein absolutism is found to be most wanting. Realistic absolutism, just as any other absolutism, harbors a "sacred cow" which in itself impairs a free play of intelligence upon some human problems. Moreover, the "right-answer" pedagogy of realism obstructs the channels of communication and prevents a ready exchange of ideas and a community of experience. "Right-answer" pedagogy also discourages and prevents the development of individual proficiency in solving problems, in the application of a pragmatic approach, and in opportunity to reorganize experience in terms of consequences. One is forced to conclude, then, that realistic absolutism is not adequate for a people striving to become more democratic.

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